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INTERVIEW WITH SEMBENE OUSMANE

JANUARY 1990
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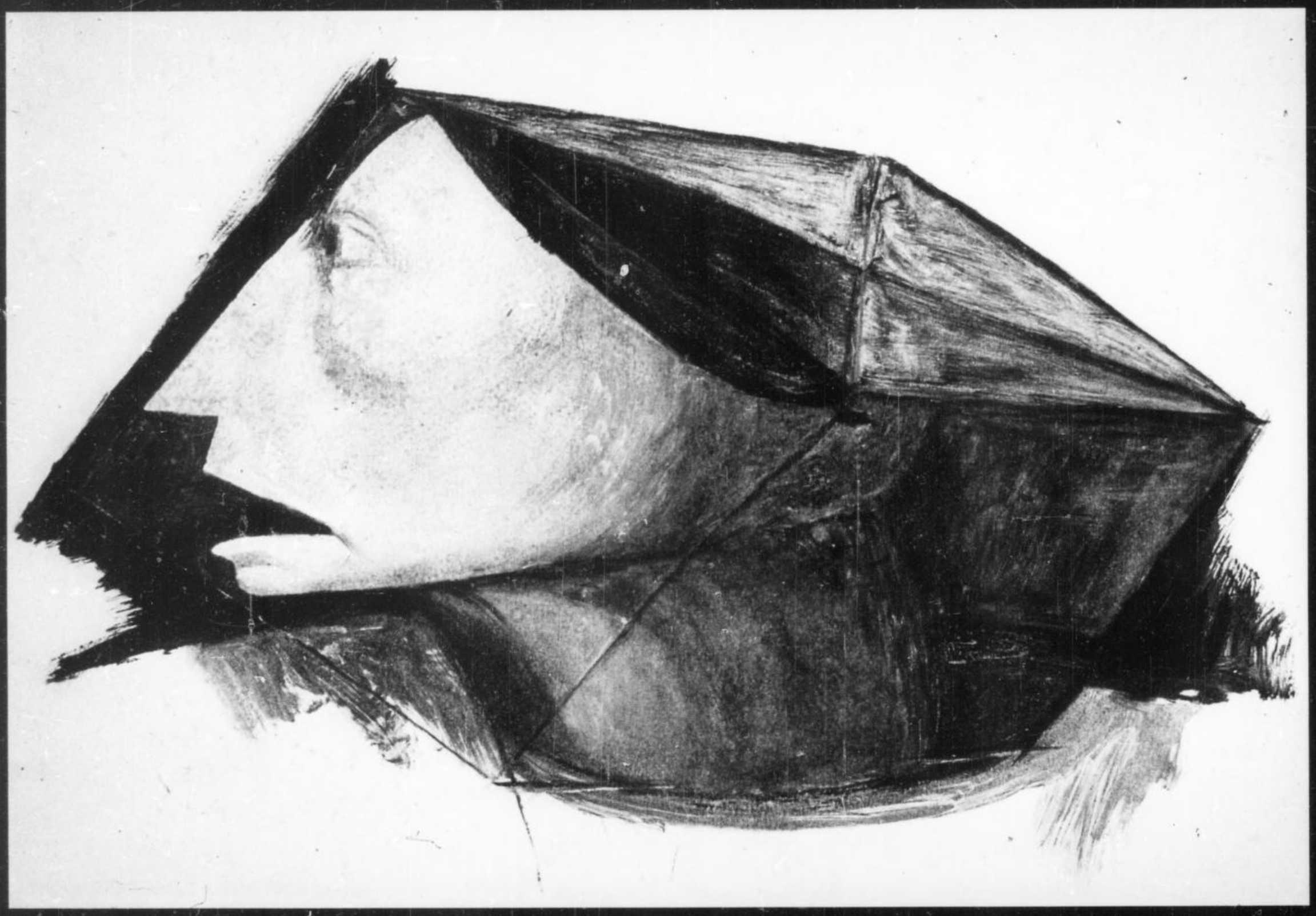
THE FORTUNES OF MONEY

encounters

We invite readers to send us photographs to be considered for publication in this feature. Your photo should show a painting, a sculpture, piece of architecture or any other subject which seems to be an example of cross-fertilization between cultures. Alternatively, you could send us pictures of two works from different cultural backgrounds in which you see some striking connection or resemblance. Please add a short caption to all photographs.



The Messenger
1980, monotype in oils (40 x 35 cm)
by Delia Nimo

Delia Nimo is an Argentine artist whose works have been described by French critic Michel Conil-Lacoste as ''X-rays of living humanity, clinging to its destiny''. Her quest for universality in art grows directly from the roots of her own experience. She has said that her underlying theme is always ''humankind at odds with the world.''

JANUARY 1990

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LETTERS TO THE EDITOR

Today there are no more unexplored continents, unknown seas or mysterious islands. But while we can overcome the physical barriers to exploration, the barriers of mutual ignorance between different peoples and cultures have in many cases still not been dismantled.

A modern Ulysses can voyage to the ends of the earth. But a different kind of Odyssey now beckons—an exploration of the world's many cultural landscapes, the ways of life of its different peoples and their outlook on the world in which they live.

It is such an Odyssey that the *Unesco Courier* proposes to you, its readers. Each month contributors of different nationalities provide from different cultural and professional standpoints an authoritative treatment of a theme of universal interest. The compass guiding this journey through the world's cultural landscapes is respect for the dignity of man everywhere.

Cover: A miscellany of money from the collection of the Museum of the Paris Mint.

Back cover: Money to burn? In Singapore bundles of imitation banknotes are set ablaze as propitiatory offerings at funerals and at New Year.

Sembene Ousmane

Poet of the African cinema

Sembene Ousmane is one of Africa's most notable writers and film-makers. His Borom Saret *(1963) was the first film made by an African on a fictional subject to be distributed outside Africa. His films and novels examine the many faces of a continent emerging from the colonial era, at grips with the tensions of independence and modernization.*

What does it mean to be a film-maker in Africa these days? What are the hopes, difficulties and challenges?

— Whether they are making films for the cinema or for television, African film-makers work with images and they are heirs to the very old but still living tradition of oral story-telling. Images can be considered as a development of the oral tradition insofar as they are addressed to a vast number of people who, in the Third World in general and especially in Africa, are unable or in some cases do not even have the time to read. The image is really a short cut.

Let me give you an example. I like to organize travelling picture shows. I go to a village and show a film, and then we have a discussion about it. As a result of what the audience has seen, heard and remembered, I find out how useful I am as the creator of the film. Once the lights go on again, people start to discuss the film. In spite of political differences and religious divisions, everyone's point of view is represented, and that's important.

Then I ask them why they need artists. I have put this question to university teachers and to students in their final year of secondary school. The answer seems to be that some of our intellectuals, especially those who are politically committed, expect artists to make proposals, to offer solutions and even, I might add, speaking ironically, to make a revolution for them by proxy. To hear them, you would think that art was meant to provide an answer to all their worries. *Art rather than politics?*

— But art does play a role in politics. Not politics in the sense of scoring cheap political points, obviously. People are immersed in art and culture from the cradle to the grave. In the African tradition, cinema is something which relates to human beings in their entirety.

Has African cinema developed only recently, with the emergence of African film-makers, or does it date back to colonial times?

— In colonial times, the cinema was a form of entertainment for foreigners. The black African world was only seen as part of a banana plantation or a coconut grove, or through stock characters of loyal houseboys and servants. Now, however, African film-makers are raising real issues. They may not always raise them successfully, but they are raising them nevertheless. People are thus slowly starting to identify with their history and the cinema is becoming something real.

Would you go so far as to say that the cinema is now the most powerful form of artistic expression in Africa?

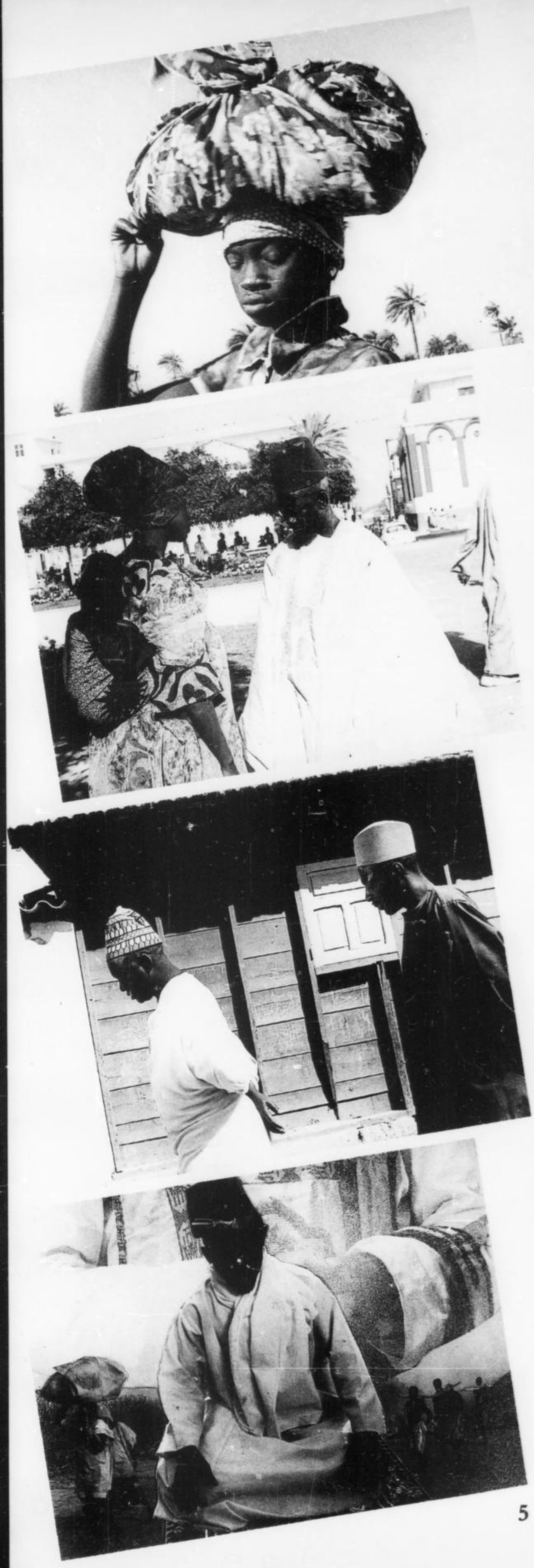
— Absolutely! African cinema is a form of self-communion. There are many things that we have not been taught and are in danger of losing: with the cinema, we can safeguard them and people can see them.

Would you say the same of television programmes, which may have been produced in another African country or even on another continent?

— If a football match is being televised, then people watch television. Otherwise, they go to the cinema! Some serials have been relatively successful, but the constant cliff-hanging becomes boring in the long run. In the ten years since we have had television in Senegal, we have seen *Dallas, Dynasty, Shaka....*

Do serials like Dallas *appeal to the general public?*

— Of course! They represent success and the "American way of life". They are full of beautiful women in beautiful settings, full of everything we hate yet dream about. It is difficult to analyse their attraction in logical terms. They have an immoral side, but morality no longer comes before individual success. In colonial times, the land was occupied,

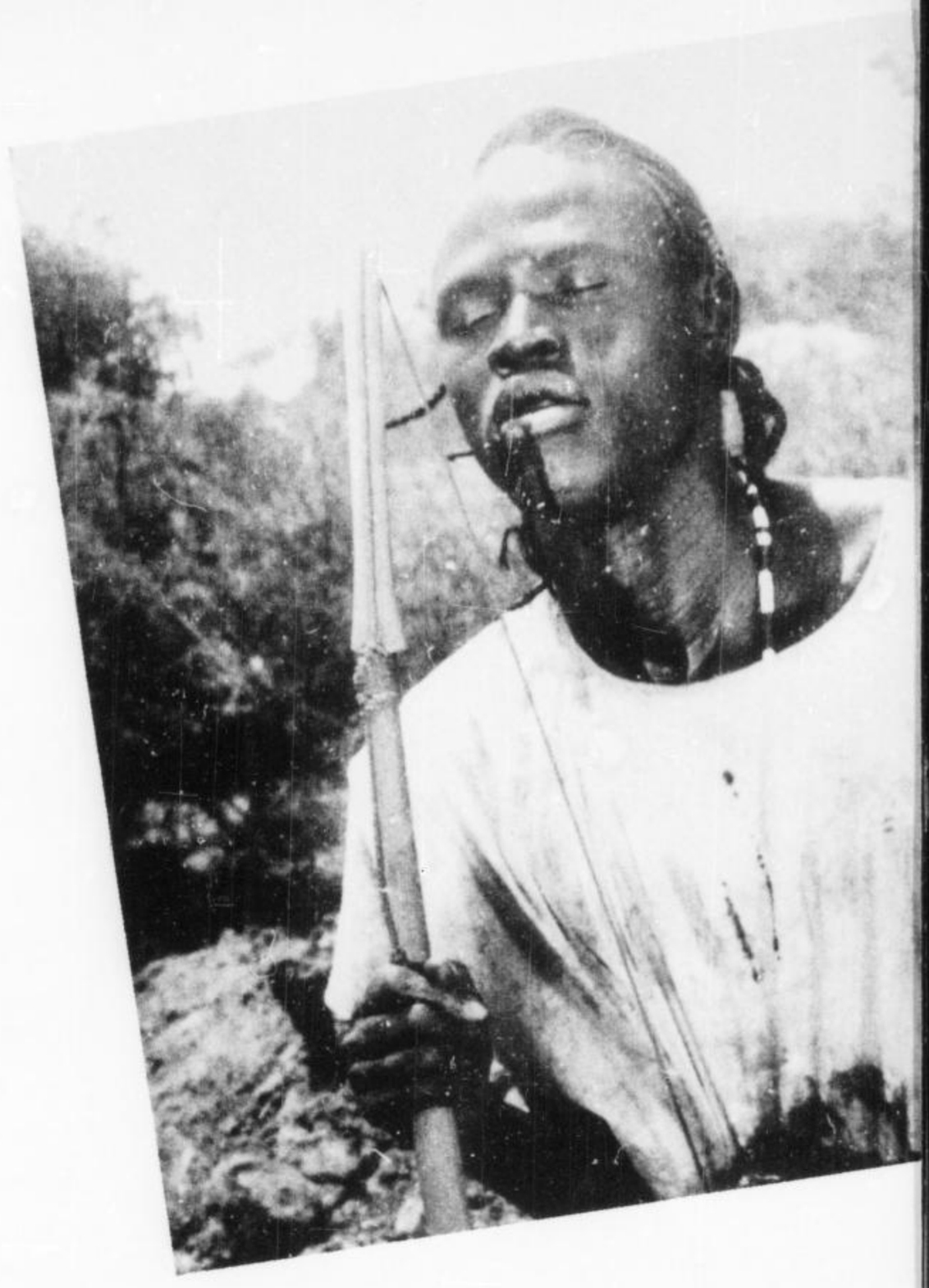


but people's minds were free. Even though my relatives—my uncles, for example—may have been civil servants and may have worn topees or ties, they returned to their own culture and their own world when they came home to their families. They still had something to say to their wives and children and their neighbours. But television takes possession of people's minds. Another culture, a completely different view of things, is brought into the home. The model of society handed down by our ancestors is smashed and is replaced by another. That is where the danger of television lies.

Do you think it is completely destructive?
— Yes, completely, because African society is not bringing forth a fresh culture to contend with this challenge. We are more familiar with European fairy tales than with our own traditional stories. There are no traditional story-tellers left in the towns. Our children go to school and are taught in a foreign language. When they come out of school, they go off and watch foreign stories with their parents.

But a society cannot turn backwards. So what should be done?
— The audiences at my travelling picture shows ask me the same labyrinthine question. In the first place, we must all know what we want. Naturally, we are all in favour of individual freedom, but where do we want to go with that freedom and what do we want to do with it? What do you do with freedom when you have countries that cannot educate three-quarters of their children, where unemployment is rife, where there is no work, and calamities pour down on you? Birth is always attended by pain. I was not present at the Creation, but when Allah created the world, there must surely have been what we now call a "Big Bang". There must have been an explosion, because nothing can be accomplished without an explosion. Life is reborn of death. You sow seeds and they decompose; a crack opens up in the earth and they sprout. There is no alternative. For the people, being free means having the right to work and to speak out. We all have to wage our own struggle and to pay for it accordingly.

And what do the people say?
— They expect somebody to speak out on their behalf. You know, black Africa's heritage is a heavy burden. No sooner had we started to form embryonic states, which were far from perfect, than we had to contend with the slave trade in which, incidentally, some Africans took part. For four or five centuries, some African chiefs were accessories to this monstrous trade. After that came colonization, which is perhaps the worst thing that ever happened to us. The colonialists trained some people, but only to occupy subordinate positions, not to govern themselves. The colonial master's presence had become necessary. In the end we fought for independence, but we did not know what it was or even who we were. We had a common territory but



different cultures. Within each geographical boundary a host of cultures existed side by side. We are now creating a fresh culture, but it is based on a language which is not our own. That is even more serious.

Is this when artists should make their voices heard?
— Yes. This is where they come into their own. People listen to them and expect them to speak out. Historically, no other creative artists have ever carried as much responsibility as novelists and film-makers. This takes us to the ancient African tradition of the "griot". Everybody knows that griots are crazy. Every village has its "simpleton" who dares to say out loud what other people only whisper in the solitude of their huts. We laugh at him, but we acknowledge that he is right.

There used to be griots; now there are artists, film-makers. Could this handing down of symbols not be a reason for hope? After all, perfect democracy can hardly be expected to emerge from chaos at a single stroke....
— In democracy it is up to the people, not the artist, to speak out. In the past, power was wielded by the elders and by wise men. Nowadays the pattern has been reversed. The elders are no longer the fount of knowledge and no one listens to them any more. What radio, television and the newspapers say does not originate with them. Society is being torn apart and people are going crazy as a result. What I say is that the only way to be happy here is to go crazy.

The countries of the Third World face many challenges. Are you one of those who consider that these challenges come primarily from outside, or do you think that they emanate from within the society itself?
— Outside the continent we have adversaries and we have allies. I would say that Africa's real enemies—its long-standing enemies—are within. If we are to move forward, therefore, we must sort out our own problems and rely principally on ourselves. Basically, we have three priorities: we have to apply our own remedies, however limited, to our own problems; we have to develop education; and we have to provide work for the people.

What about freedom of speech?
— Speech is a duty in Africa. Every head of a family is expected to attend village meetings—"palavers"—to represent his clan or his household. Moreover, he has to speak, if he does not want to be thought of as a coward. But he also has to listen. There is a very fine tradition in the "palaver": when a man has finished speaking, the oldest member of the group says "We have heard what you have said and understood what you have not said". Naturally, nowadays, in a democracy the scale is different. Every citizen has to express his or her views. The issues are no longer the same, but the tradition of the "palaver" could perhaps open up paths and suggest new ways in which people could organize themselves. ■

E D I T O R I A L

THE need for a form of money to serve as a medium of exchange arose at a very early stage in history, and ever since then an astonishing range of objects has been used for the purpose at different times and places—feathers, shells, cocoa beans, silver, gold, and paper notes, to name but a few. As time went by, the functions of money diversified. A medium of payment for goods and services, a standard of value and a store of purchasing power, it eventually became a convention reflecting people's confidence in society.

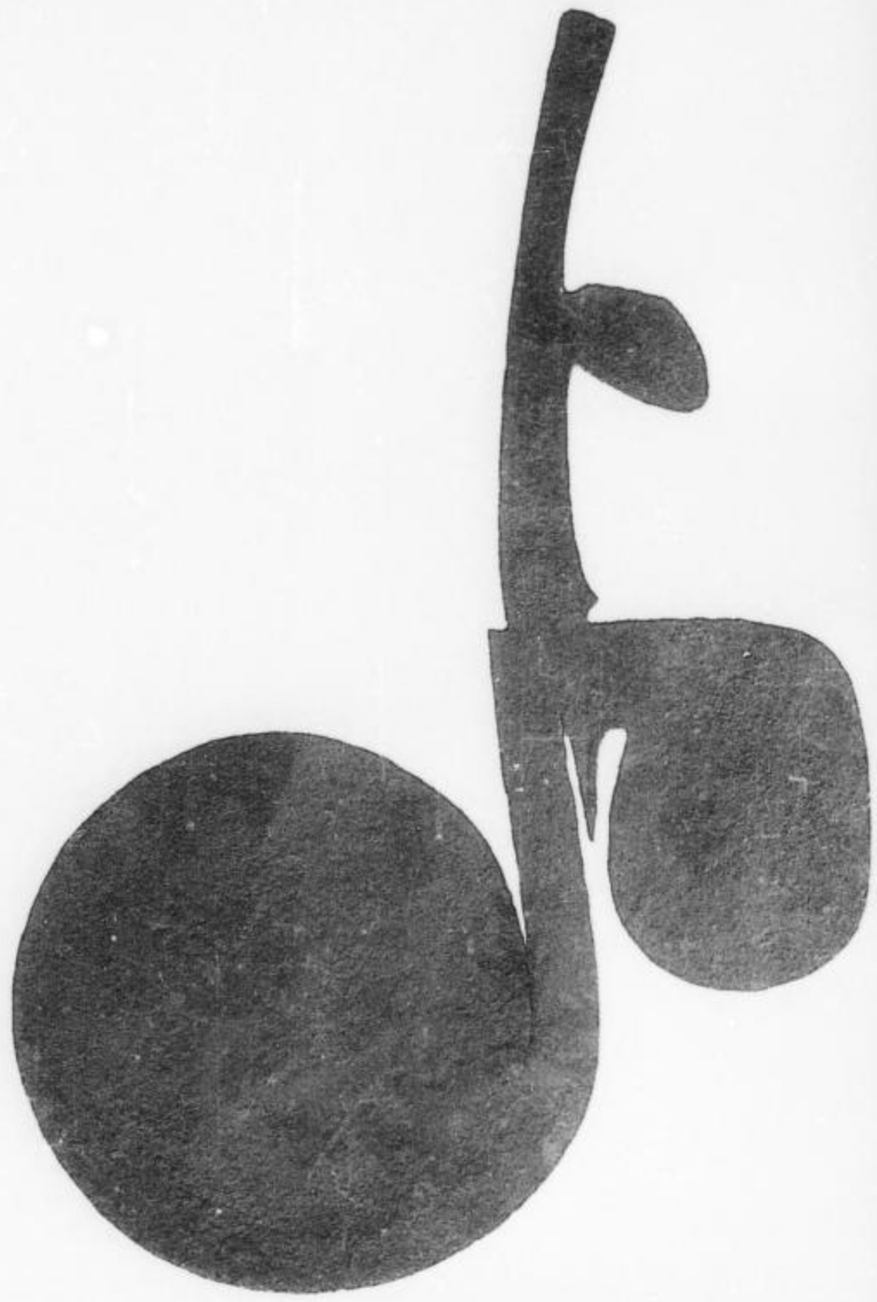
The subject of money is full of mystery and paradox. It creates, as Lucien Gillard points out in this issue, "a coherent area within which people have a common yardstick with which to assess their credits and debts". Within this area its use gives rise to inequalities. It is a measure of wealth and, by the same token, of poverty. It became an attribute of state power, but also, through fraud, a means whereby the power of the state was contested. Although a currency is legal tender within fixed boundaries, it is linked by exchange rates to other currency areas and international markets.

Often attacked by moralists and rejected by utopians, sometimes relegated to a secondary role even by economists but omnipresent in our daily lives, money has contributed, by facilitating trade and boosting economic activity, to certain decisive steps in the history of civilization. In this issue we evoke some milestones in monetary history in the hope that they will help to throw some light on the role of money in the world today.

Italian bankers in the 14th century, fresco by the Florentine artist Niccolo di Pietro Gerini, 1395.

Uncommon coin

A variety of unusual objects have been used since ancient times to finance trade and cement political and social life



BY JEAN-MICHEL SERVET

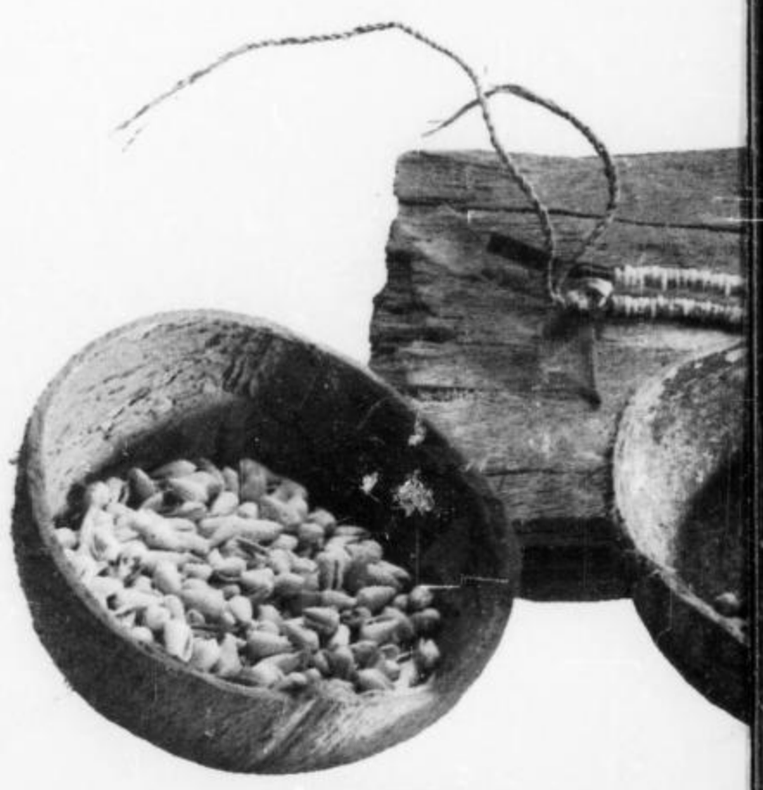
NECKLACES or bracelets of shells, pearls, teeth, bones or feathers, fragments of stone or metal, pottery, pieces of cloth, and other unlikely objects are labelled as "primitive money" in many museum collections and ethnographical or archaeological publications.

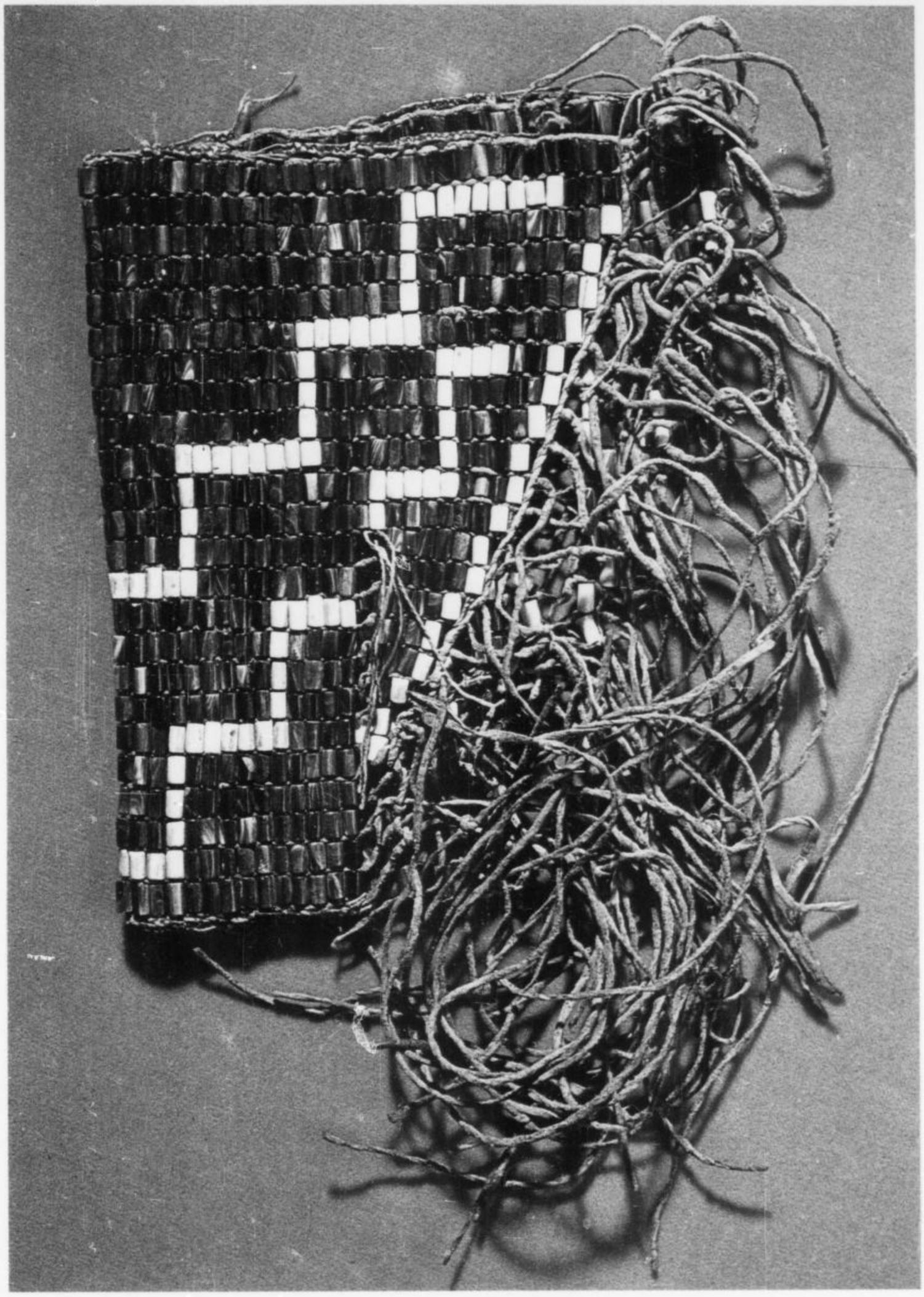
Other apparently similar objects are described as ornaments or jewellery, although there is no evidence to prove that they were used for display rather than as money. Their degree of preservation, which suggests that they were highly valued by their owners, together with physical characteristics indicating a non-utilitarian purpose, may have led archaeologists and students of prehistory to attribute a purely decorative function to these treasures which in fact were also used as money.

Money in ancient civilizations

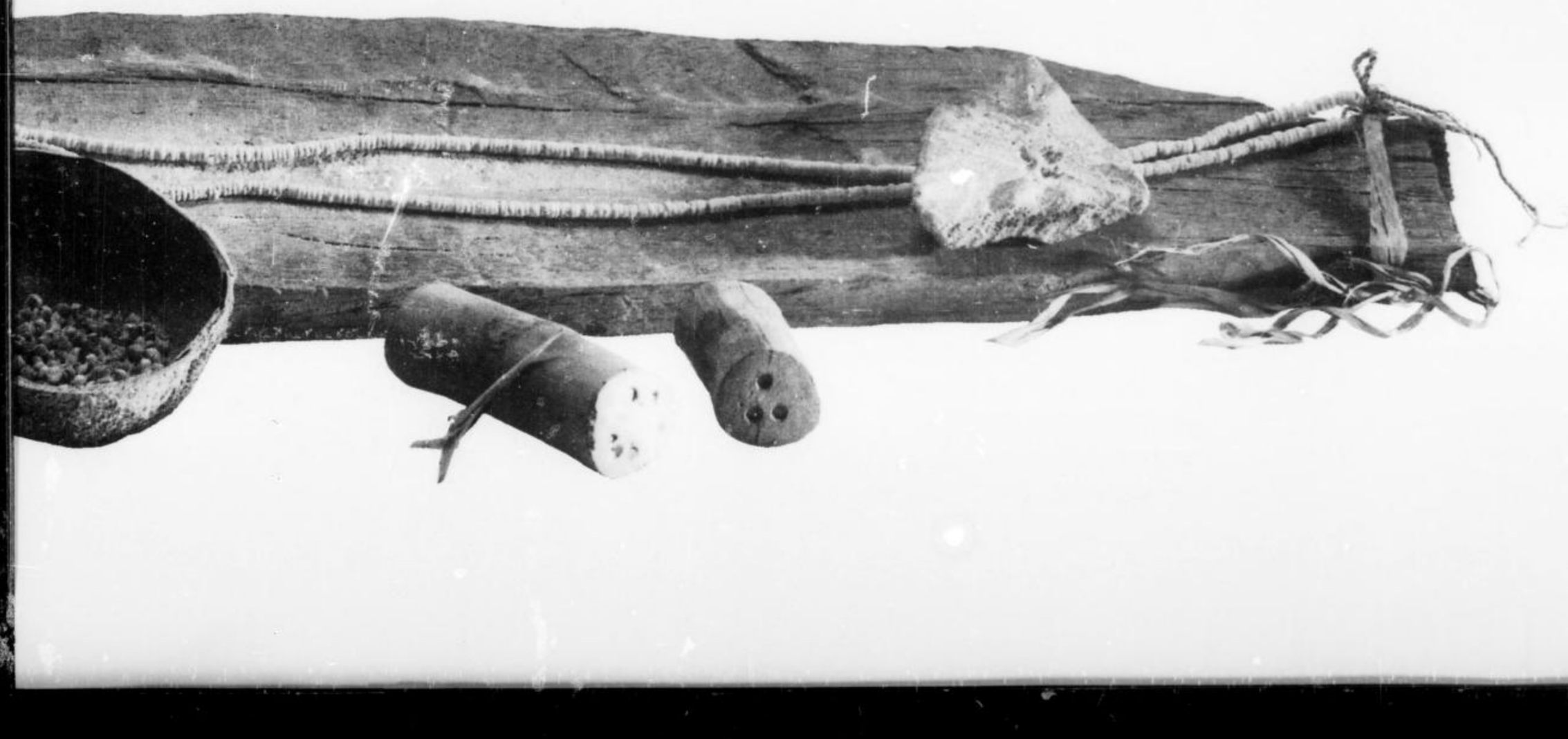
Over 2,000 years ago, Aristotle observed that before coins were used people gave things that they possessed in abundance in exchange for things they lacked. This practice was known as *metadosis.* Ethnologists have described how very ancient yet strongly hierarchical societies used complex exchange systems such as the *kula* of the western Pacific, the *bilaba* and the *malaki* of central Africa and the *potlatch* of the northwest coast of North America.

Money, like relationships involving hierarchy and domination, is thus not a modern invention. It was a feature of even more ancient civilizations than those of the Mediterranean basin, of the Near or the Far East, or of Central America. The circulation of precious objects within and





Far left: shaped in the form of a throwing knife, this iron object from the Central African Republic was once used as money. Left, wampum, *shell beads woven with strips of hide into strings or belts which the North American Indians used in their dealings with white traders in the 17th and 18th centuries. Below, objects used in the Solomon Islands for making shell money.*



between these communities seems to have been universal, and in a sense to foreshadow the functions of money as a medium of exchange and as a unit of account.

But in such ancient societies these basic functions had not yet become purely economic. They were an emanation of kinship systems and political alliances, beliefs and cults, which influenced the supply of labour, organized production and justified the distribution of wealth.

Money, or in this case "palaeomoney", was the active instrument of social life. It was used at times of birth, marriage and mourning, to declare war and make peace, as compensation for physical or moral wrongs, and as a means of propitiating the gods of fertility and death. On the other hand, it was not yet used to pay debts or wages or to buy goods.

The scarcity and lack of intrinsic usefulness which characterize palaeomoney are typical of some modern forms of money. Palaeomoney also anticipated the economic and political nature of modern currencies, on the one hand by setting a value on different activities and material goods and thus foreshadowing today's standardized methods of payment, on the other by reflecting and reinforcing the hierarchical power relations between individuals and groups.

Better than barter

The exchange systems of these ancient communities were thus much more complex than that of a simple barter economy.

From very early times, commodities circulated over great distances. Specimens of durable materials such as amber and obsidian have been found hundreds of kilometres from their place of origin, distances as great as that from southern Australia to the northern coasts of New Guinea, and from the Black Sea to Poland and the Rhineland. As early as the Upper Palaeolithic Period (35,000-10,000 years ago), Cro-Magnon man in the Dordogne area of southern France was

Above, Melanesian feather money consisting of a fibre rope decorated with red feathers and fragments of shell. Right, a bundle of iron spikes which was used as money in the Congo (late 19th century).

using shells brought from the Atlantic ocean. 200 kilometres away.

At a later stage different societies came to specialize in the production of a particular item for exchange and as a means of payment for produce acquired from other groups. Examples of such commodities are stone axes, bars of salt, pottery and bark cloaks. Later still, groups specializing in trade emerged within these societies and travelled tens or even hundreds of kilometres in the course of their activities.

This is far removed from a barter economy, where goods are exchanged directly, without any intermediate transaction. However, the development of an objective system for measuring value was still limited. The price of the goods exchanged was primarily the expression of a social relationship between individuals and communities. The marketplace was not yet the driving force behind monetary development.

The first coins

The use of money grew rapidly with the development of states, which managed the surplus wealth created by the exploitation of slaves, serfs or peasants, by long-distance trade or the despoliation of neighbouring peoples. Tributes and taxes began to be evaluated and methods of payment for trade in markets and ports began to be standardized.

Among the wide range of commodities which served as money in ancient societies—the pieces of cloth and cocoa beans of the Maya and Aztec empires, the cowrie shells and gold of the West African kingdoms, the bean-shaped ingots of the Greek cities, the iron bars of the Hittites, the barley and wheat of Mesopotamia, the wheat and copper of Egypt, the millet and silks of China—coins are of particular interest because their use has continued to the present day.

At first, coins were only one form of metal currency. Before coins circulated in China, and even after they were introduced in the late fourth

Pecuniary portraits
From top to bottom: warrior with two oxen, Macedonian octadrachm (early 6th century BC); silver stater from the Mende wine-producing region of Macedonia (5th century BC); horse (obverse) and palm tree (reverse), silver tetradrachm from Carthage (4th century BC); nymph's head and dolphins (obverse) and four-horse chariot (reverse), decadrachm from Syracuse (c. 400 BC); rams' heads and dolphins, silver stater from the Greek city of Phocis (c. 479-470 BC).

century BC, small-scale replicas of spades and knives were used as money. The first coins were struck in the seventh century BC in Asia Minor and in Greece, where some cities were still using bean-shaped ingots. Small silver ingots punched with a variety of motifs were used as currency in India from the same period until coins were introduced there in the fourth century BC.

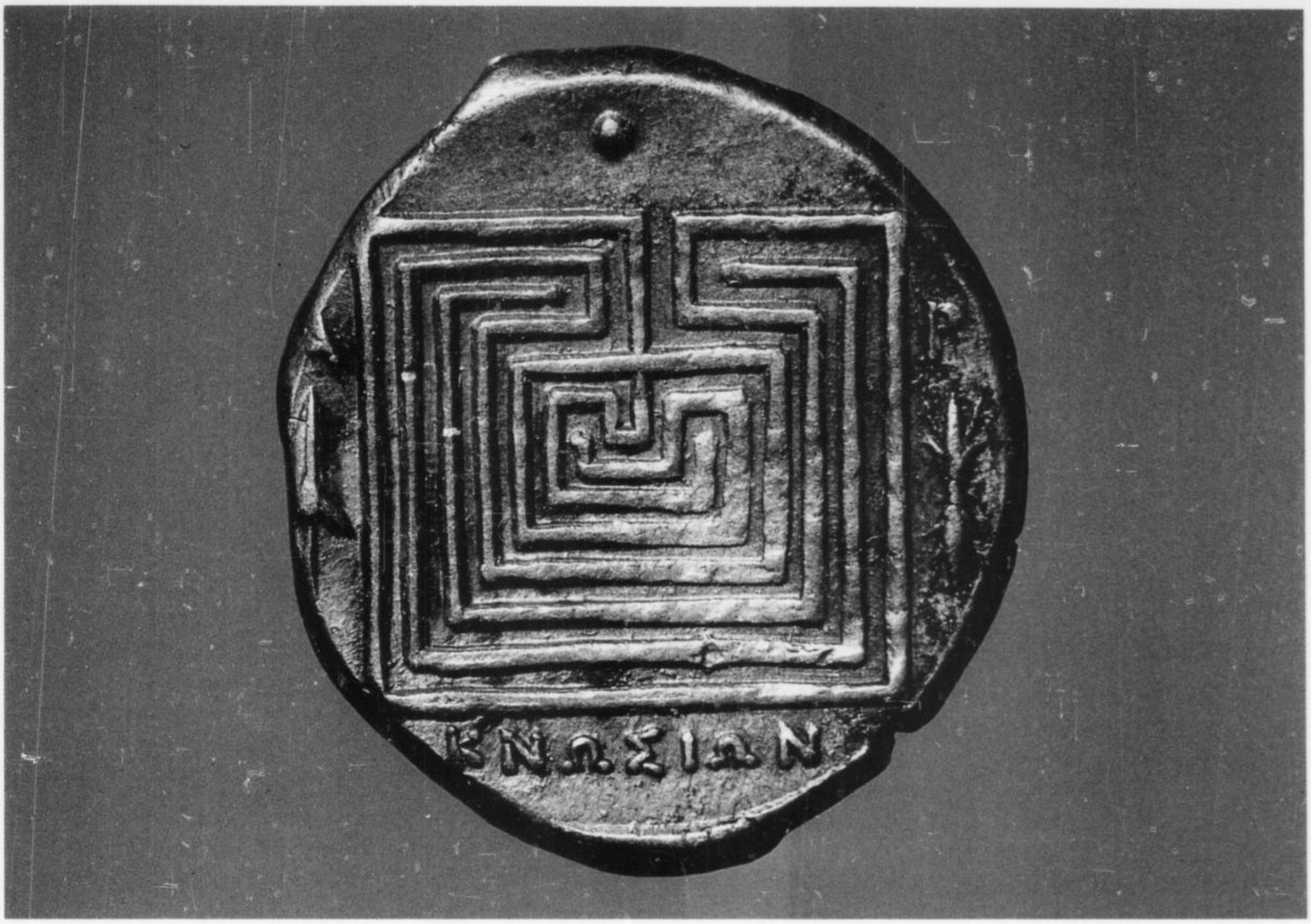
Above, gold di-stater adorned with the head of the goddess Athena issued during the reign of Alexander the Great (336-323 BC). Right, Roman and Byzantine gold coins. Opposite page, Greek silver stater depicting the labyrinth of Knossos, Crete (c. 450 BC).

The influence of Greece

The cities of ancient Greece played a crucial role in the history of coinage. For centuries the Greek numismatic tradition was widely propagated, either directly or through a complex network of influences. In the wake of the conquests of Alexander the Great, whose troops seized precious metal from the treasuries of Near-Eastern potentates and turned it into coinage, Greek coins were widely distributed in the Mediterranean countries.

The Romans, who initially used bronze ingots like those of the Etruscans, minted their first coins in the third century BC under the influence of the Greek cities of southern Italy. Roman colonization led to the use of coinage to an extent unmatched until the European colonial expansion of the nineteenth and early twentieth centuries.

Beyond the eastern frontiers of the Roman empire, between Khorasan and Mesopotamia, the Sasanian dynasty continued a numismatic



tradition that displayed a strong Hellenistic influence and had been transmitted by the Parthians, whose empire (founded between the third and the second century BC) stretched at its height from the Euphrates to Afghanistan. This Hellenistic tradition also influenced early Islamic coins, while the Roman tradition was carried on in Christian Europe.

A similar process occurred in India, which was subject to waves of Greek influence both direct and indirect, from the arrival of Alexander's troops and contact with the Roman empire to Muslim and European colonization.

The ritual significance of coins

In all these civilizations, coins were not immediately seen as a monetary instrument superior to other accepted methods of payment, with which they long coexisted. Metal discs, more or less well-stamped, could be used in all kinds of ways. When they changed hands it signified more than just a commercial transaction—it could symbolize an exchange of gifts or even tribute.

The first coins of the Greek cities were thus not issued as a direct response to commercial requirements. Their value was too high to pay for everyday goods in the marketplace. In long-distance transactions, carried out largely by sea, the goods themselves were the means of payment. What then was the original function of these coins? At first it seems that they were needed in dealings within and between the Greek cities, and above all they had a political and religious function.

This dual role was not however an obstacle to the use of coins in commerce. The metal of which they were made had itself been the object of long-distance transactions since very ancient times, when trade had important political and social overtones. The flexibility allowed by weighed pieces of metal which could be divided into small units, and their distribution in societies with widely different customs, gradually established them as the preferred method of trading and of paying taxes in the ancient world.

Coins stamped with the images of gods and rulers kept their essentially political function until the Roman era, when they were issued to commemorate public games or military campaigns. The sacrificial and ritual significance of coins persists even today, as when they are buried in the foundations of buildings and bridges or flung into fountains and wells as propitiatory offerings, used symbolically to reinforce marriage contracts, or placed in the mouths or hands of the dead so that they can pay their way in the next world.

JEAN-MICHEL SERVET is a French economist with a special interest in "palaeomoney". He is the author of *Nomismata: état et origines de la monnaie* (1984) and *Idées économiques sous la Révolution: 1789-1794* (1989), both published by Presses Universitaires de Lyon, France.

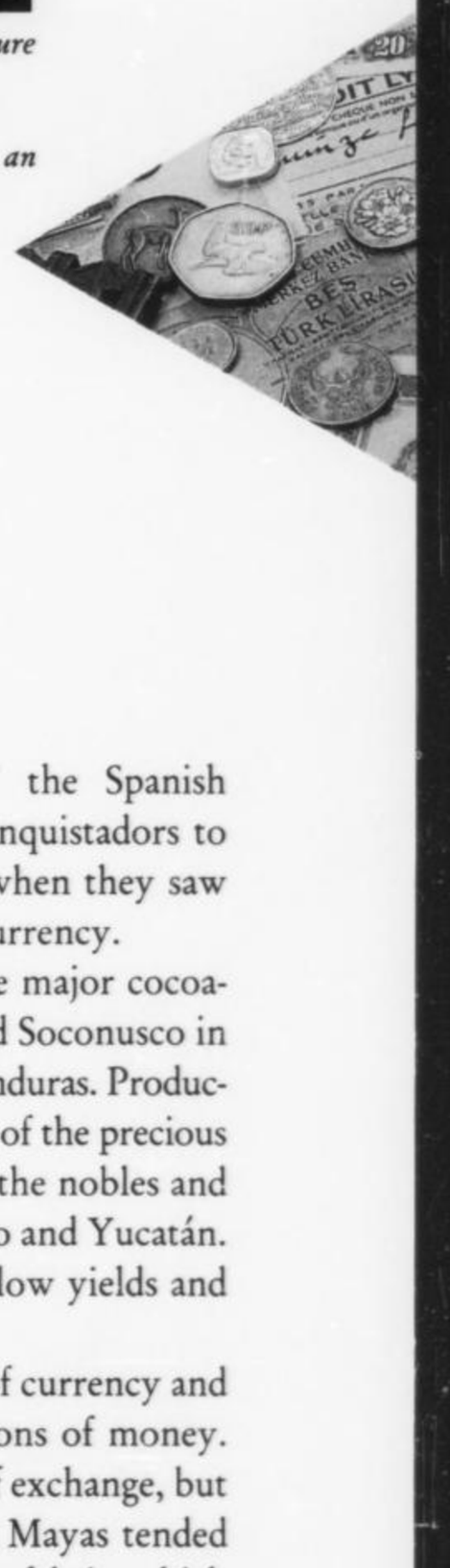
BY PIEDAD PENICHE RIVERO

When cocoa was

used as currency

Money literally grew on trees in parts of pre-Columbian America, where cocoa was invested with the magic attributes of the god Quetzalcóatl and brought wealth and prestige to those who owned it

Above, Maya stone sculpture of a warrior. Left, Quetzalcóatl and his companion as depicted in an Aztec manuscript, the Codex Borbonicus.



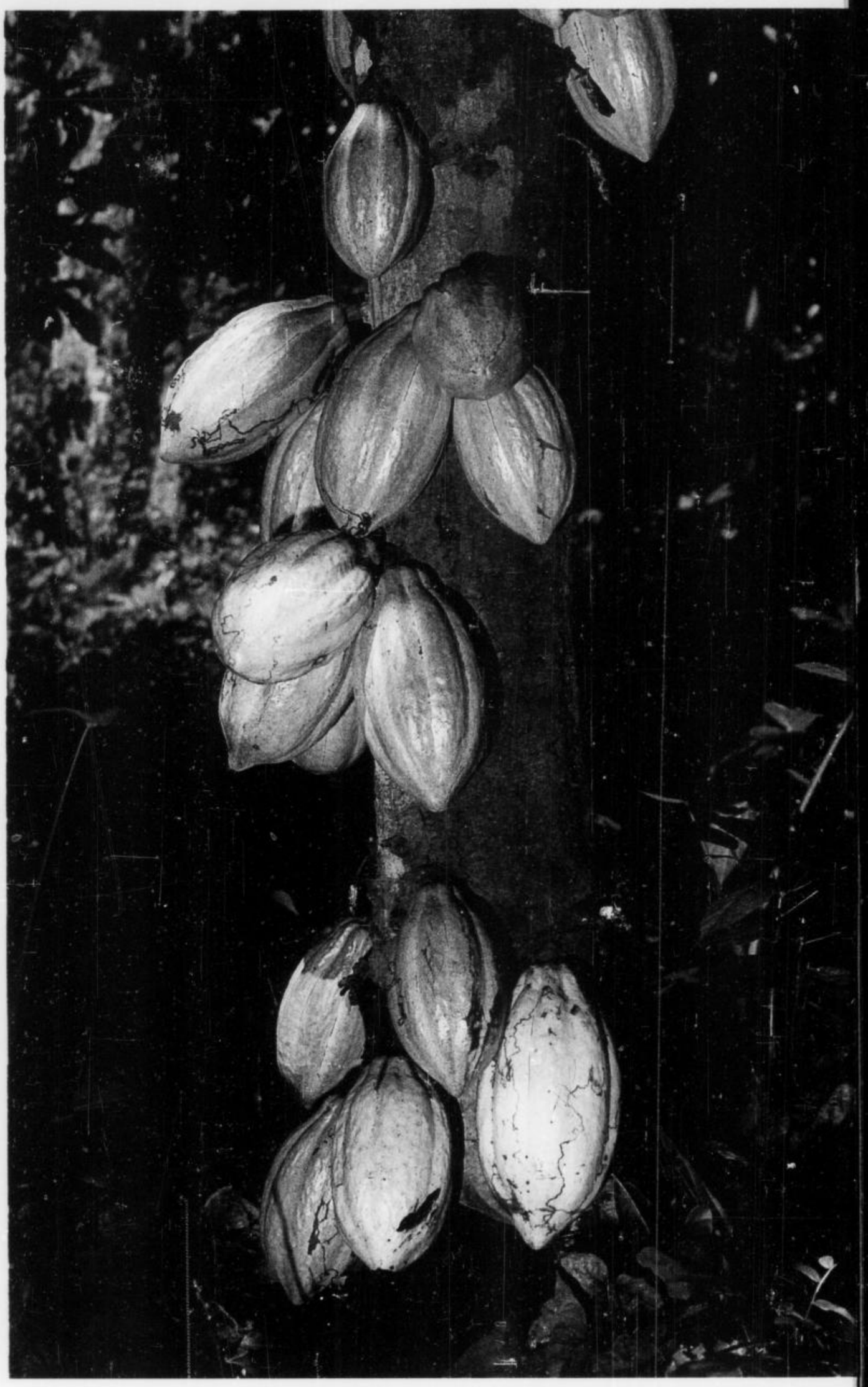
"MONEY grows on trees," the Spanish chroniclers who followed the conquistadors to Mexico noted with amazement when they saw that cocoa beans were used as currency.

At that time there were three major cocoa-producing regions: Chontalpa and Soconusco in Mexico, and the Ulúa basin in Honduras. Production, circulation and consumption of the precious beans were tightly controlled by the nobles and merchants of the Valley of Mexico and Yucatán. Cocoa was expensive because of low yields and transport problems.

Cocoa was a primitive form of currency and could not perform all the functions of money. It was widely used as a medium of exchange, but to measure value the Aztecs and Mayas tended to use *quachtli*, pieces of cotton fabric which represented a given amount of work.

In Yucatán, one *quachtli* was equivalent to 450 hours of work. And while we do not know how many hours it took to make each of the pieces of cloth which formed part of the tribute raised by the Aztec emperors, we know that each one was worth almost 100 cocoa beans.

Above, the Pyramid of Kukulkán at Chichén Itzá, one of the great cities of the Maya-Toltec civilization, north of Yucatán, Mexico.
Right, cacao tree (Theobroma cacao). *Far right, cacao fruit cut open to show the seeds (cocoa beans).*



It seems certain, then, that the value of most of the goods in circulation could be expressed in cocoa, but was actually assessed in pieces of cloth at constant value. Cocoa was used as money because, unlike the pieces of cloth, it could be divided up as required.

The ancient Mexicans used cocoa to prepare chocolate, a ritual drink consumed exclusively by aristocrats and warriors. Most people only had the right to *pulque*, a fermented drink made from agave. This prohibition strengthened the power of the aristocracy, since chocolate was supposed to be the food of the gods and to possess magical properties.

Aztec 'chocolate soldiers'

Perhaps chocolate was associated with the blood of human sacrifices, notably when the heart was torn from victims offered to Quetzalcóatl, the "plumed serpent", in the Toltec towns of Yucatán and the Valley of Mexico.

According to Mexican mythology, Quetzalcóatl, the "gardener of paradise", taught men how to grow cocoa when he lived at the city of Tula. When he left for the coast, he buried the "currency" of that time—sea-shells, feathers and precious stones. Cocoa then began to be used as currency instead, and was invested with the magic attributes of the god who had introduced it.

The Aztecs were the last masters of the Valley of Mexico. Their flourishing empire, which dominated all the peoples which had fought for control of the Valley, owed its prosperity to tribute rendered by its thirty-eight provinces, among which Soconusco contributed, according to the *Codex Mendoza,* 400 of the 980 loads of cocoa demanded by the state.

The beans were deposited in "cocoa-houses" and then taken to the centres of imperial power—temples and barracks where it is recorded

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that the Aztec soldiers consumed massive amounts of chocolate.

Unlike those of the Aztecs, the Maya political and mercantile élites overlapped, so that cocoa entered Maya society through trade not tribute.

The circulation of cocoa beans was duplicated by the production of an equivalent quantity of cotton squares. Cocoa beans and cotton squares served as standards of value for all kinds of commodities including certain areas of land which produced cash crops. Slavery came into being when manpower was levied from among the peasant communities. Men were bought and sold with cocoa. According to the chronicler Diego de Landa, the Mayas of Yucatán were "Strongly inclined to trade. They dispatched salt, clothes and slaves to Ulúa and Tabasco, and bartered them for cocoa and rows of stones which served them as money and enabled them to buy slaves and other fine stones..."

Thanks to Maya and perhaps even Aztec slaves, the increased productivity of the cocoa-growing regions probably encouraged the circulation of cocoa among the lower classes, still under the control of the aristocracy. Several ethnographic chronicles from colonial times confirm that cocoa was used as an offering and as a gift at weddings and funerals.

What role did cocoa play in the accumulation of wealth? Among the Mayas and the Aztecs different attitudes prevailed, generally dictated by social status. In the Valley of Mexico the merchants had to behave with great circumspection so as not to offend the emperor. Consequently, records the chronicler Bernardion de Sahagún, they were modestly, even poorly dressed. As for the Pochtec merchants, they were forced by the avarice of the nobility to give up large quantities of cocoa as gifts and offerings to temples.

Whereas in the Valley of Mexico the possession of cocoa was a status symbol, among the Itzás of Yucatán fortunes in cocoa ostentatiously displayed by rich lords who owned many slaves and opulently decorated palaces also served to stimulate production since they could be invested in commercial farming and the acquisition of captive manpower. This may explain why the Spaniards retained the use of cocoa as money in Yucatán, replacing cotton with their own currency, the real, as an indicator of value, but continuing to relate it to fluctuations in cocoa production.

Cocoa was still being used in the nineteenth century to pay the wages of workmen in Yucatán and other parts of Central America. This is clear from an account by a North American traveller, John L. Stephens, who noted in 1842 that in Yucatán there were no copper coins nor any specie less than the half real, that the Indians earned very low wages with which they procured the bare necessities, and that cocoa beans were widely used as small change. ■

Mollusc money

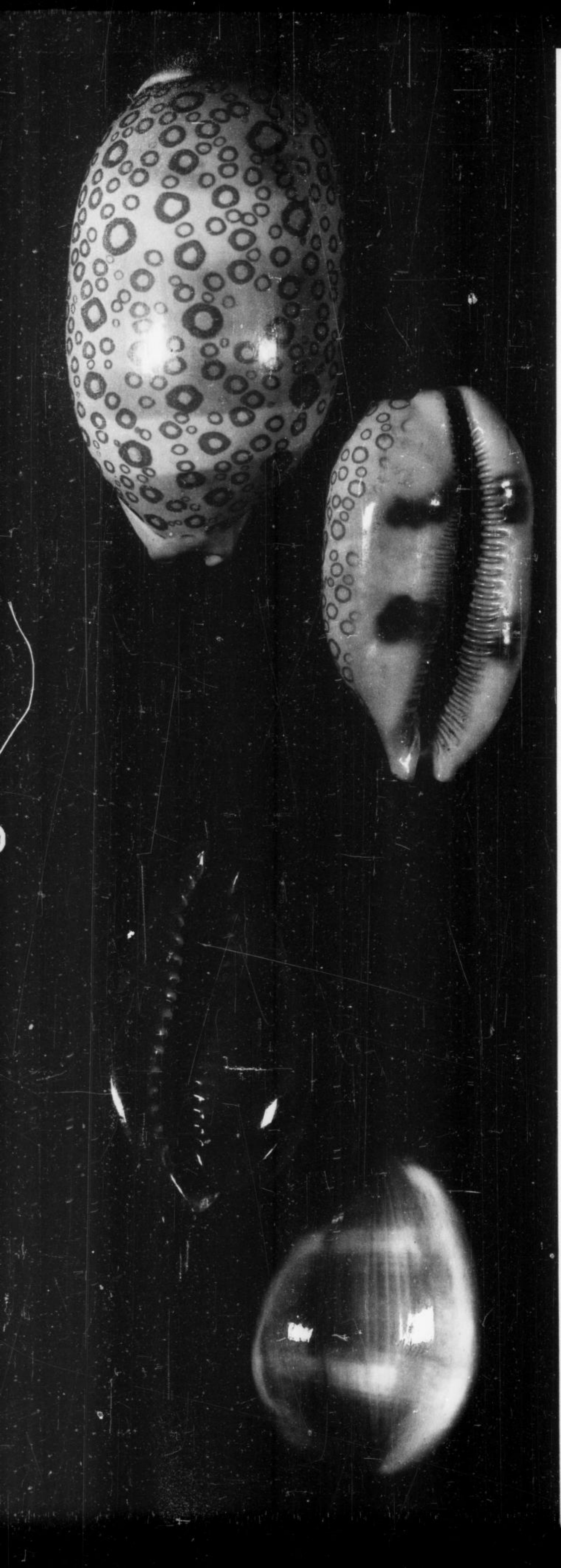
Cowries and other colourful shell currencies have circulated in Africa for many centuries

BY A. FÉLIX IROKO

Left, girls wearing cowrie shell headdresses in Karamoja province, northeastern Uganda. Below, cowries braided into a fibre rope from Papua New Guinea, which was used either as ornamentation or as money.

FROM the dawn of time to the twentieth century, many commodities were used as currency in sub-Saharan Africa. They included metal rods and bracelets, fabrics, salt, pearls, shirt buttons and seashells. Of all these mediums of exchange, shells enjoyed the widest circulation.

Cowries, marginellas and olive shells, of marine origin, were those most often used. Cowries *(Cypraea annulus* and *Cypraea moneta)* are white or pale yellow shells the size of a hazelnut, with a humped back and a ventral opening. They are only found in warm seas, especially in the South Pacific and the Indian Ocean. Most of the cowries that circulated in Africa for over a thousand years came from the Maldive and Laccadive archipelagos, south-west of India, and from the islands of Zanzibar and Pemba, off the east coast of Africa.



Cowries were traded wherever they were fished or collected, and were often carried as ballast in Arab, Jewish or European ships sailing for ports on the African mainland, where they were sold again.

Marginellas *(Marginella)* are marine molluscs whose shells, especially those from the west coast of Africa, are small and colourful. They are also found in American tropical waters, notably off the coast of Brazil.

There are more than 300 species of olive shells. More elongated than cowries, they have an agate-like sheen. The species most commonly used in sub-Saharan Africa was *Olivancillaria nana,* found off the coast of Luanda which was a monetary reserve used exclusively by the rulers of the Kongo kingdom until the Portuguese arrived in the late fifteenth century.

Markets for shell currencies

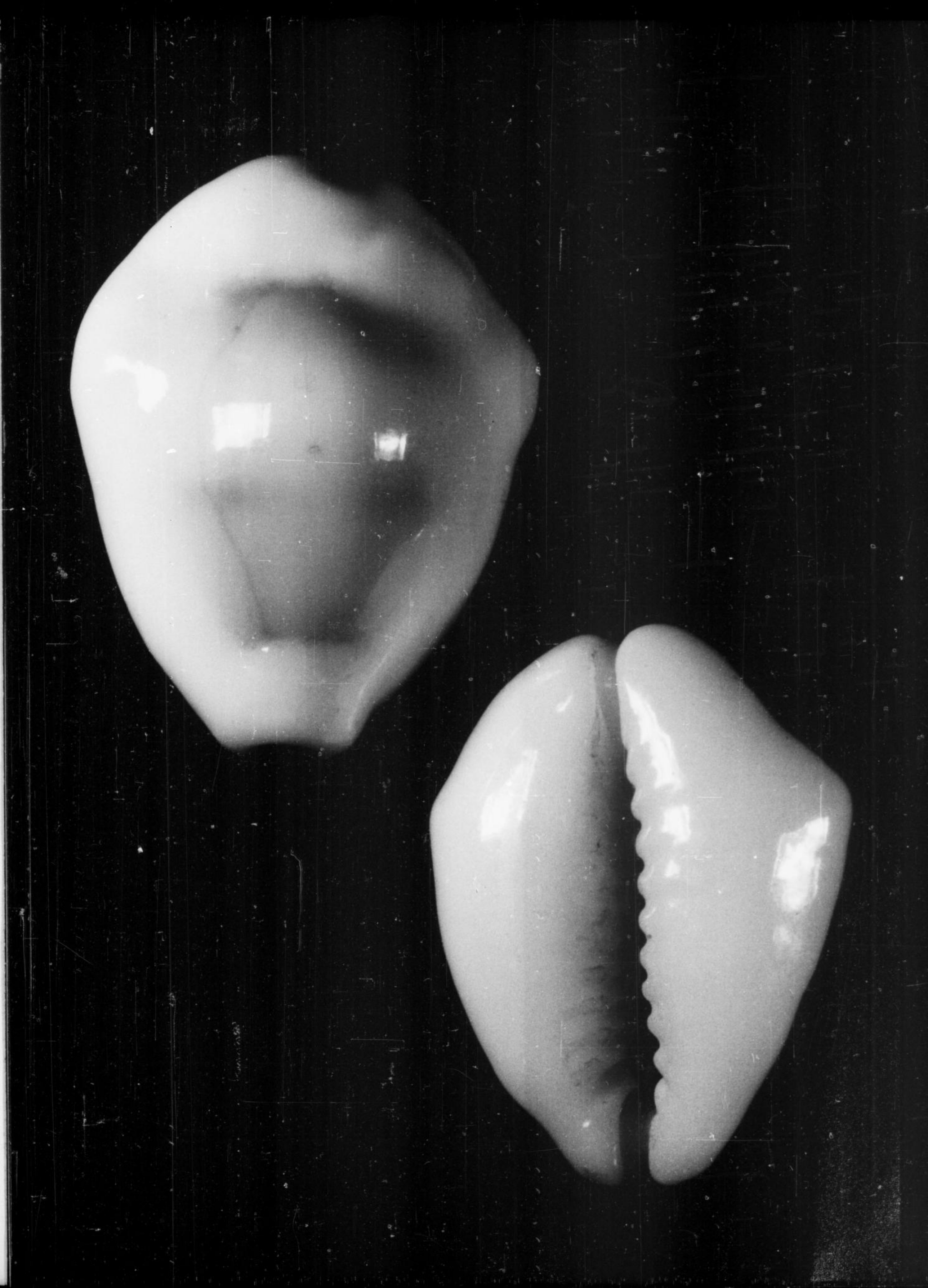
Until the sixteenth century, the *Nzimbu* (the Kikongo name for *Olivancillaria nana)* was used as currency in the Kongo kingdom, marginella shells were used only in the Niger bend, while cowries were common throughout West Africa, and, to a certain extent, in Central Africa. Before the sixteenth century cowries were also used as currency in Egypt.

From the sixteenth to the late nineteenth century the cowrie was more widely used than any other form of shell money—from Senegal to Uganda, from the Sahel to the Slave Coast (Gulf of Guinea). It was seldom used in the Sahara and never gained ground either in northern or southern Africa.

This was also the period when marginella shells were most widely circulated in West and Central Africa, where they were used as a medium of exchange among the Olée, Ngilima, Tsambitso, Obaa, Koyo, Eboyi and Akwa peoples of the Congo basin.

Olive shells were always exclusive to the Bantu, and do not seem to have circulated outside the Congo. In order to ruin the rulers of the Kongo kingdom, the Portuguese introduced other species of olives from the Brazilian coast and cowries from the Indian Ocean. Inevitably,

Dorsal and ventral views of three varieties of cowrie. Above left, the eyed cowrie (Cypraea argus); *left, the onyx cowrie* (Cypraea onyx); *right, the money cowrie* (Cypraea moneta), *which has served as currency in Africa and elsewhere.*



Above, a dancer at a Papua New Guinea festival brandishes a shield encrusted with shell money, a traditional form of wealth which features on the modern 5-kina note, right.

the *Nzimbu* was gradually forced out of circulation. The Portuguese also exported olives from Luanda and used them as a secondary form of currency, along with cowries, in the black slave traffic in colonial Brazil.

2,000 cowries for a gourd of salt

These shells were not simply used for barter. They had all the characteristics of money in the sense that they were measures of value and financial reserves as well as mediums of exchange. They symbolized wealth.

They could be used as cash to buy yams, knives, cattle and slaves, or to pay for services rendered. They also served as units of account for fixing the price of certain commodities without necessarily being used to pay for them. In the nineteenth century, the French explorer Louis Gustave Binger recorded the following negotiation between two merchants from northern Ghana: "A gourd of salt is worth 2,000 cowries, a hundred kola nuts are 1,000 cowries. So I'll give you 200 kola nuts for a gourd of salt."

Shells thus encouraged trade and were excellent indicators of fluctuations in the price of goods at different times and places. They were assembled in multiples for ease of handling. One or more holes were pierced in cowries and they were strung in groups of 12, 20, 40 or 100 according to the number system used in the trading area where they were in circulation.

Similarly, *Musanga* (small discs of snail-shell used as currency in some African countries) were strung through a central hole to make necklaces. In the early twentieth century, ten of these necklaces measured from the big toe to the heel were worth a *doti* or 3.60 m of indigo-blue cloth, and ten necklaces measured from the little toe to the heel were worth a *doti* of any other cloth.

In some regions of sub-Saharan Africa the use of shell currencies led to the development of monetary policies. The authorities controlled the import and circulation of the shells. Taking steps to avoid an overabundance of shells, which would have caused inflation, or scarcity, which would have inhibited trade, gave them substantial power over the economy. From Abomey to the Slave Coast, as in the Congo, rigorous and highly efficient monetary policies were practised.

Shells began to be withdrawn from circulation at the beginning of the colonial period and gradually lost their role as a medium of exchange. Today only cowries still circulate, on a very small scale, between the peoples of south-west Burkina Faso and northern Ghana. This is the only region in the world where their monetary value has been preserved to some extent—but for how much longer? ■

Top, a huge symbolic cowrie adorns the façade of the Bank of Mali at Bamako. Above, a copper ankle-bracelet, once used as money in the Congo.

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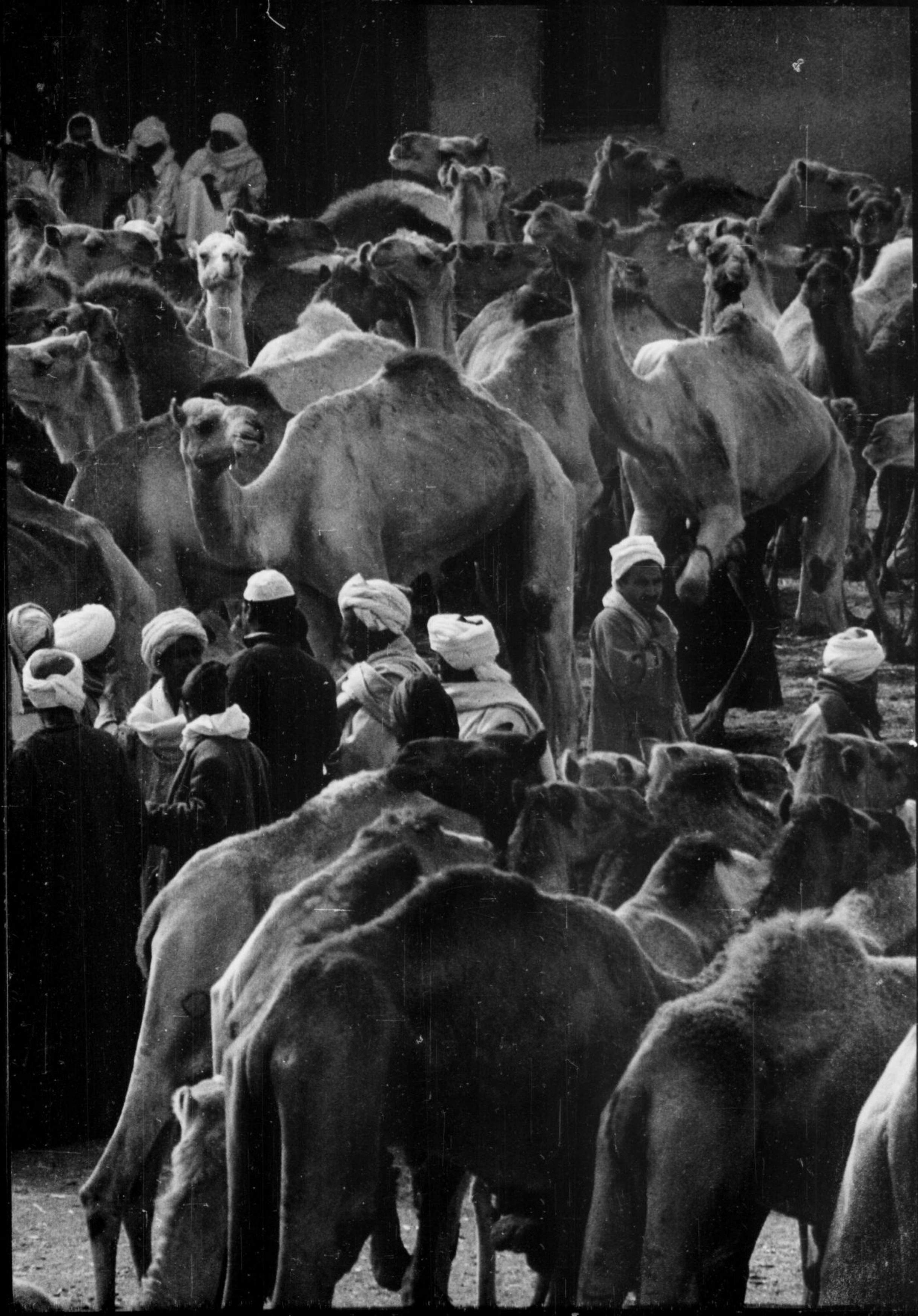
Dinars club

The first caliphs created an international monetary system in the seventh century using coinage that was surprisingly modern in conception and design

BY GÉRARD KREBS

In the time of Muhammad, in the early seventh century, the Arabs did not use money. Perhaps they had no need of it. Among the nomadic tribes for which the camel was the main yardstick of wealth, barter was the most widespread form of exchange, while in centres of trade such as Mecca and Medina foreign money such as Byzantine gold or Persian silver coins had to be used for large transactions.

Between 636 and 655 AD, the first Arab invasions which wrenched Syria, Palestine and Egypt from the Byzantine empire in the West, and destroyed the Persian Sasanian empire in the East, brought in vast quantities of precious metals. The booty included gold and silver plate as well as coins. But the creation of a new currency



Top left and right, silver dirhem issued under the caliph al-Muqtader (4th century AH/10th century AD). Above, silver drachm of the Sasanian monarch Bahram II (276-293 AD) with busts of the king, his queen and the crown prince.

OPPOSITE PAGE
Above, gold dinar (1st century AH/7th century AD). Below, clockwise from top left: Arab Sasanian drachm (c. 650 AD) bearing the inscription "In the name of Allah"; Arab Byzantine follis (c. 650 AD); Umayyad dirhem (122 AH/740 AD); altun bearing the name of the Ottoman sultan Süleyman I the Magnificent (926 AH/1520 AD); 'Abbasid dirhem (307 AH/919 AD); follis (c. 690 AD) showing the standing figure of the caliph 'Abd al-Malik.

PRECEDING PAGE
Camel market, Cairo. A camel features on the coin, left, issued during the 'Abbasid dynasty (3rd century AH/9th century AD).

was of no urgency to Islam in comparison with its paramount goal of waging a holy war.

The new Muslim masters adapted themselves very easily to the existing monetary systems in the conquered regions, and took them over practically unchanged. In the East silver drachms continued to be minted bearing the effigy of the late Sasanian king Khosrow II, although they now carried the additional inscription "In the name of Allah" in Arabic. On the Mediterranean seaboard the gold solidus and the bronze follis were retained in their original forms, bearing the bust or standing figure of the Byzantine emperor Heraclius and his son, or of Constans II. Sometimes an Arabic inscription was added and the Christian symbol of the cross, widely found on Byzantine coinage, was dropped.

The accession of the Umayyad dynasty in 661 AD marked the beginning of strong administrative control within the Islamic empire. In the field of coinage the first steps were taken in Syria and Palestine towards true Muslim themes, almost exclusively on copper coins, on the instigation of caliph 'Abd al-Malik (reigned 685-705). In Damascus, Edessa and Jerusalem coins were issued showing the standing figure of the caliph with hands on a sheathed sword and encircled by an Arabic legend.

Birth of the dinar

In 696 AD 'Abd al-Malik introduced a coherent monetary system throughout the empire which responded to both national and international economic requirements.

For major transactions and trade on a large scale, the gold *dinar* of 4.3 grams began to be used. For the payment of wages and taxes the silver *dirhem* of 2.8 grams was introduced, and the copper *fals* for everyday use. The relative value of these coins was not fixed but changed according to the price of the three metals. At first the dinar was worth 10 dirhems, but its value appreciated to 14 and even to 20 dirhems at different periods. The dirhem itself fluctuated between 16 and 24 fals because its weight varied from region to region.

These new coins closely paralleled the foreign coins which had previously been in circulation. The dinar, heir (and competitor) of the Byzantine solidus, took its name from the Roman *denarius*. The dirhem was similar in size and value to the Persian drachm and the fals (plural fulous) was a direct descendant of the Roman and Byzantine follis.

On the other hand, the design of the new coinage was revolutionary. There were no more allegories, no more titles reflecting the glory of the ruler, no more portraits. These coins were Islamic and therefore their exclusive role was to praise God. Even the caliph's name did not appear on them, and because the Prophet had disapproved of the representation of human or animal forms, the sole inscriptions were professions of faith in elegant Kufic script.

This coinage represented a departure from the Middle Eastern and North African tradition which was both figurative and personalized, with portraits of rulers or emblems of cities. Its longevity was to be extraordinary—the last coins to be struck in this tradition were issued in the Yemen around 1960. The system was remarkably modern in the sense that no sovereign state had defined its currency so explicity before. The Arabs were the first to mark coins with their name, place of minting and year of issue, dated from the Hegira in accordance with the Muslim calendar. In the West, the practice of dating coins only began to spread widely in the fifteenth century.

While dinars were minted exclusively in the Umayyad capital of Damascus, dirhems were issued in many of the empire's leading cities. The busiest mints were at Damascus and at Wasit, a city founded in 703 in the Tigris valley (northwest of Basra, Iraq). The decentralization of the mints, from Spain (Córdoba) to Tunisia, from Azerbaijan to Afghanistan (Balkh) and Pakistan (Sind region), gives an idea of the vast size of the Islamic empire.

The 'Abbasid dynasty overthrew the Umayyads in 750 AD, and the development of commerce in the eighth and ninth centuries carried the use of coinage even further. Baghdad, the new

Bargaining with buttons

During Bonaparte's Egyptian expedition of 1798 the polished buttons on the French soldiers' uniforms are said to have been highly prized in the souks of Alexandria. The merchants, who were used to seeing nomads carry their worldly wealth stitched onto their garments so that they wouldn't lose it in the desert—this is why so many North African coins have a hole pierced in them—wanted to be paid with the beautiful shiny pieces of metal which adorned the foreigners' uniforms. Delighted at not having to dip into their wages, the soldiers hacked off their buttons to pay for their purchases. Bonaparte's reaction on seeing his men return from the souk in such a slovenly fashion can easily be imagined.

Trade and religion

In the twelfth century the gold dinars of the Fatimid caliphs of Egypt were so highly valued throughout the Middle East, especially by Syrian merchants, that the Christian kingdoms founded in Palestine by the Crusaders began to issue imitations of them. These imitations, the so-called "Saracenic besants", were clumsily produced at first, but their design was gradually improved until they were such faithful copies of the dinar that the horrified papal legate who accompanied King Louis IX of France (Saint Louis) on the Crusades in 1250 threatened those responsible with excommunication for daring to issue coins to the glory of Allah for commercial profit. A compromise was reached. The Saracenic besant was replaced by another issue which was almost identical to its predecessor but bore a cross and Arabic inscriptions to the glory of the Holy Trinity and the Lord Jesus Christ.

Above, coins worn as ornaments at the festival of Marrakesh (Morocco). Opposite page, **The Moneychanger** *by the Austrian artist Rudolf Ernst (1854-1920).*

capital founded in 762, drained off much of the empire's wealth and rapidly grew into a leading economic centre with a large gold and silver mint. Coins continued to be struck in the style of the earlier dynasties but now they began to carry the name of the caliph, and later the names of provincial governors were added. The calligraphy and design of the coins varied according to the region of issue, however, as local dynasties in the Spanish, North African and eastern Iranian provinces asserted their independence.

The splintering of the empire

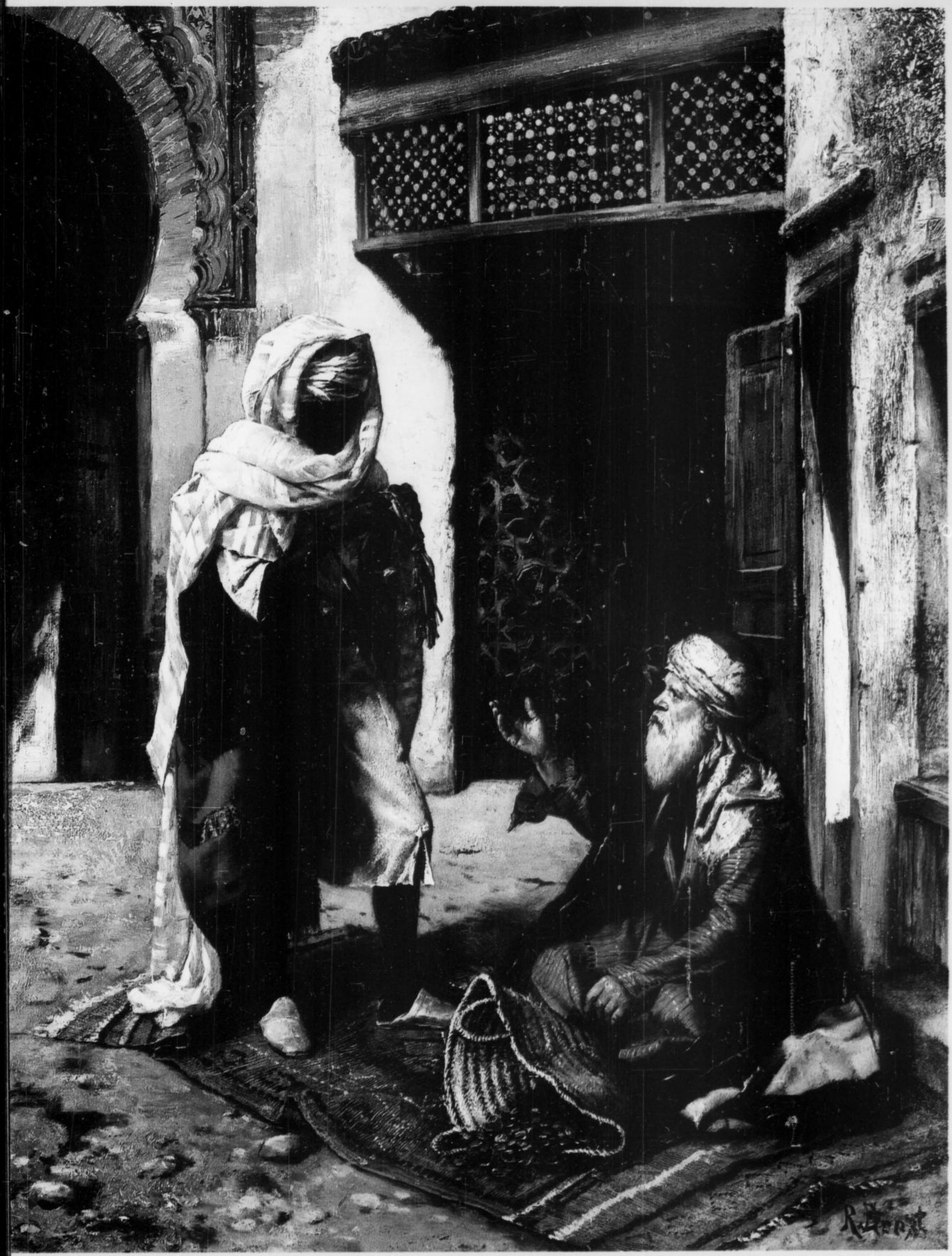
In 945, the rebellion of Iranian Buyids marked the end of 'Abbasid central power. From then on the Muslim world had no common currency, and although the terms dinar and dirhem still referred to gold and silver coins, the wide range in their weight and purity and the arrangement of their inscriptions reflected the ambitions and financial situation of each dynasty. The sole exception in these politically and economically troubled times was Egypt under the Fatimids (969-1171). A prosperous country which controlled the outflow of Sudanese gold and occupied a strategic position on the main sea trading routes, it long continued to mint "good" dinars.

In the thirteenth century, the Mongol invasions which ravaged the entire Muslim East—Baghdad was sacked in 1258 and the 'Abbasid caliph executed—swept away the last vestiges of the currency system conceived by 'Abd al-Malik. Soon each country had its own monetary policy and would issue its own coinage. Not until the establishment of the Ottoman empire was a common currency again in wide circulation. Initially the Turkish coinage consisted of a silver akce (of 1.2 grams then of 0.8 grams), complemented in 1478 by a gold altun. These coins were in circulation from Algeria to Turkey and as far as the Balkans.

Yet this system was not as stable as the earlier one. Adversely affected from the late sixteenth century by the massive influx of silver from Spanish mines in South America, it was modified several times and reformed in 1688, but was never really able to hold its own against Western currencies. The design of the coins recalled the ancient tradition of personalized money, as although they were non-figurative they were all dedicated to the glory of the sultan and often depicted his seal *(tughra)*, his names and his titles.

Today the countries of the Islamic world have their own strictly national currencies. The time when money existed solely for the glorification of God, performing a role which transcended its economic function and crossed political boundaries, is over. ■

GÉRARD KREBS,
a French numismatist who specializes in Oriental coinage, contributed the historical and numismatic commentaries to *Les monnaies de l'Islam et du Proche-Orient* (1988), the catalogue of the Paris Mint's holdings of Islamic and Near Eastern currencies.



Wheelers and dealers of Renaissance Europe

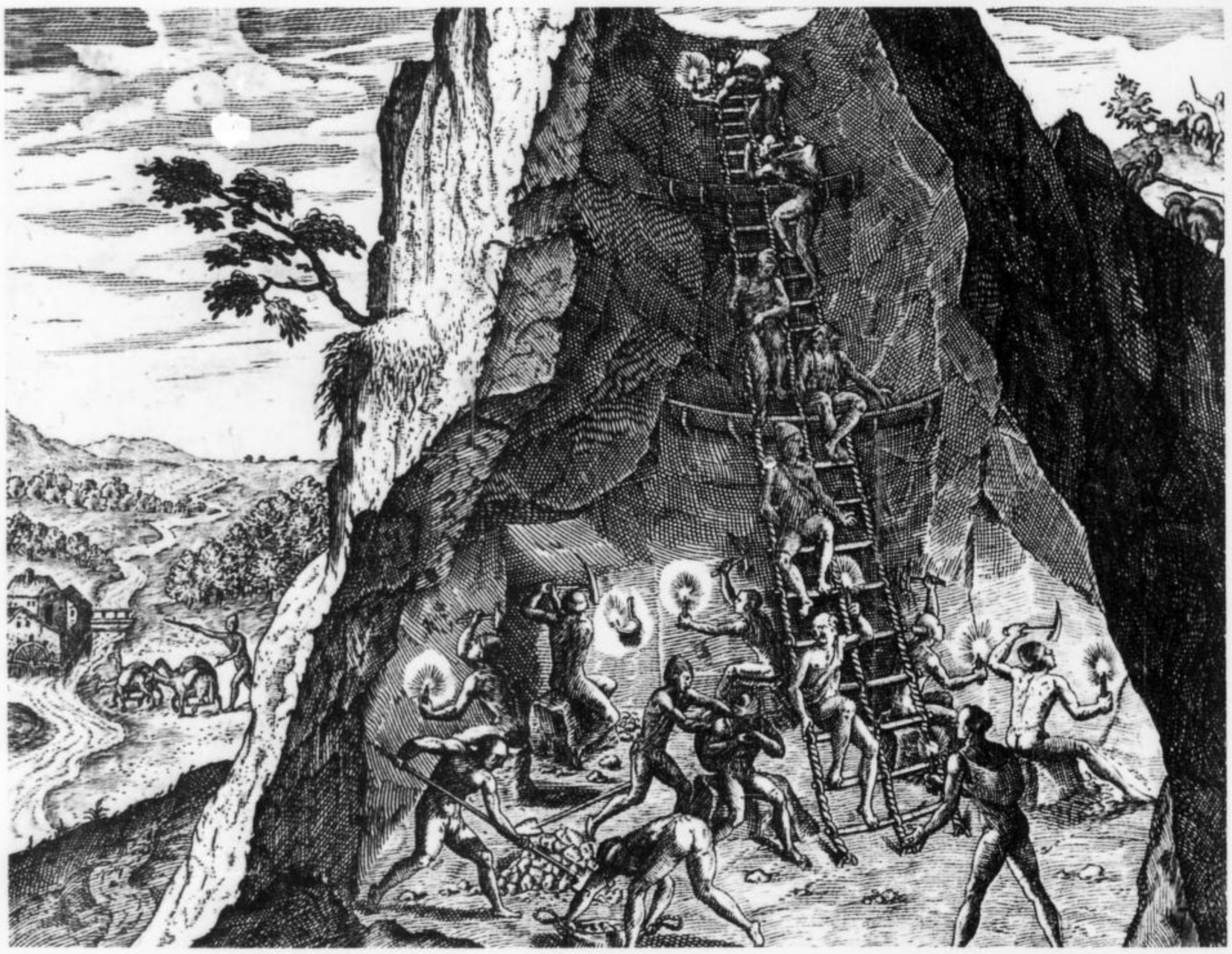
An influx of precious metals from the New World stimulated the money economy but also unleashed turbulent forces

BY LUCIEN GILLARD

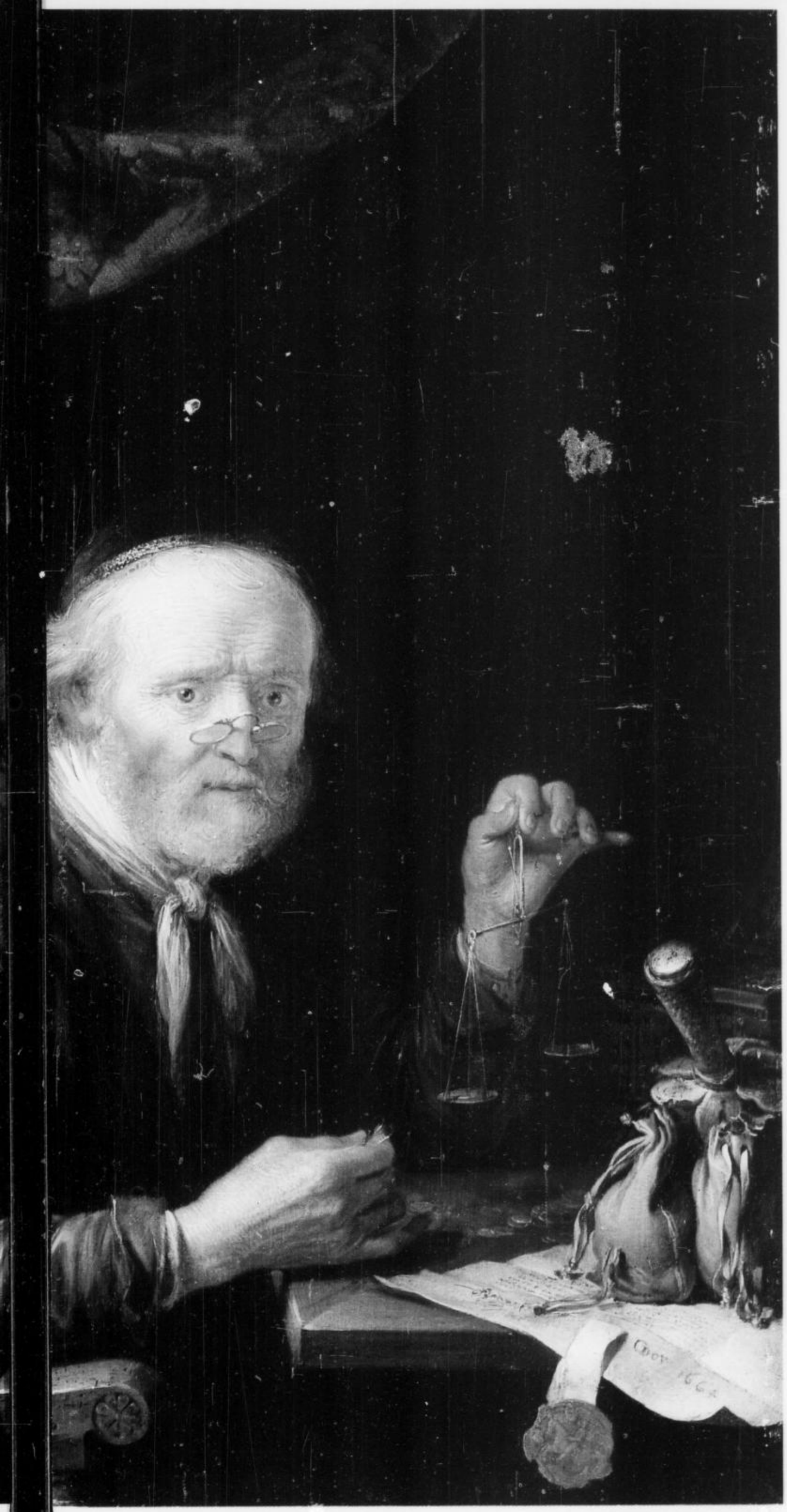
MONEY is generally thought of as a medium in which prices and values are expressed, a means of payment and a store of purchasing power. As the standard by which the value of traded commodities is measured, it creates a coherent area within which people have a common yardstick with which to assess their credits and debts.

In sixteenth-century Europe, these areas coincided with national frontiers, beyond which money was a kind of standard-bearer for each nation. A convenient means of payment, money also promoted the circulation of goods. The spectacular development of production and trade in sixteenth-century Europe is thus generally associated with the growth of the money supply in the form both of commercial bills and of coins minted with metal from the Americas.

Finally, as a store of purchasing power, money introduced a new conception of temporality, which made it possible to circumvent much of the anguish of daily life. Time no longer belonged entirely to God, but became instead the



Left, the fabulous silver mines of Potosí in Upper Peru (modern Bolivia) which were intensively exploited by the Spaniards during the colonial period. Engraving by Théodore de Bry (16th century).



The Weigher of Gold
by the Dutch painter Gerard Dou (1613-1675).

foundation on which people could base their plans. The notion of money as capital was recognized, as is shown by the debates on interest on loans, on the indexation of debts, on the causes of price rises and even on the sale of indulgences.

Money, therefore, seems to have fulfilled its functions satisfactorily and to have contributed to the strengthening of social ties in Renaissance Europe. There are, however, two sides to every coin; money also lay behind such disruptive forces as monopoly acquisition and exclusion. And the doubling of the population in Europe during the Renaissance period only served to accentuate the turmoil these forces induced.

Debasement of the coinage

The first problems occasioned by money during this period were related to its issue. Within a given national territory, the minting and legal valuation of money was the responsibility of the political authorities, a principle adopted, after much vacillation, from Roman law. Despite the severity of the measures taken against those who contravened this principle (such as being boiled alive), the official monopoly to mint coins was very often contested.

The first frauds were the work of traffickers in debased coinage which contained less than the official quantity of precious metal, but was accepted at the same face value. Debased coins were to be found everywhere, because minting techniques were then too rudimentary to ensure that every coin was exactly the same. Any smart merchant, money changer, or even tax collector would carefully sort through the coins that came into his possession and withdraw the heavier coins from circulation. All he had to do then to get more for them than their face value was to sell them by weight, at a good price, to the goldsmiths or silversmiths. Another method was to shave off minute slivers of the metal before putting the coins back in circulation, banking on the reluctance of those receiving them to have them checked against the official standard (they ran the risk of having to bear the expense of the assay if the coin was found to conform to the standard).

Attempts to put a stop to this practice by milling the edge of the coins and stamping a circle around the effigy-head met with little success. No country succeeded in introducing the new milling techniques, which could have eliminated these problems altogether, during the sixteenth century. Machine methods for producing coins were both too expensive and strongly opposed by the workmen who hammer-struck the coins by hand in the traditional way. Finding that simply having their likenesses engraved on the coins was not enough to guarantee their authenticity, rulers were gradually obliged to require that coins be weighed at each transaction. Their attempts, by a plethora of prohibitive edicts, to prevent the uncontrolled price-fixing of precious

metals by goldsmiths and silversmiths proved equally ineffective.

More radical contradictions became apparent between counterfeiters and what might be termed the "anti-coin" diehards. Sixteenth-century counterfeiters, that is to say minters of fake coins, tended to specialize in Spanish coins, especially the smaller ones which were cheaper to make and more difficult to check. Meanwhile, many rulers themselves minted imitations of the coinage of other countries, so as to keep for themselves the minting tax (in the case of small states that did not have their own coinage) or to retain some of the precious metal by minting debased imitations.

There were some famous examples of counterfeiting. In France, over a ten-year period, supporters of the Pope organized the parallel minting of coins to undermine the official coinage of the Protestant king. Another such case was that of the fake Spanish coins struck from cargoes of precious metals pirated on their way to Europe from the Americas.

Following the discovery of the Antilles and the Americas, Spain embarked on the systematic exploitation of the precious metals found there. Twice a year, these metals were brought under military escort to Seville, where the Spanish coinage was minted. Imports of metal recorded during the sixteenth century were impressive: around 250 tons of gold and 200,000 tons of silver, amounts equal to a third of total previous stocks. Some historians, however, estimate that clandestine imports not recorded by the Spanish authorities and destined for rival mints may well have amounted to as much again.

Spanish silver 8-real coin minted in 1597 during the reign of Philip II. Below, hammer-striking coins in France at the time of Louis XII (1462-1515).

There have also been less complicated forms of coinage abuse. One of these consisted of individuals agreeing amongst themselves to use coins prohibited by royal decree. Periodically, monarchs would decree that a specific coin was no longer legal tender for trading purposes because it was of unacceptable quality. Such coins had to be taken to treasury offices to be clipped and bought back at their value by weight. These decrees were often ignored by private individuals, who would fix an agreed value for the coins in question, particularly when coinage was in short supply. This is what happened to small Spanish coins in France during the second half of the sixteenth century.

An even more common practice was that of using authorized coins in trading but at a so-called "voluntary" value, ignoring the value officially fixed by the ruler. In those days, and for 200 years afterwards, the value of coins was taken from public announcements and not from inscriptions on the coin itself. Distrust of the official coinage was thus increasing and in some regions at certain times the private value quoted for a coin could be as much as double that of the official rate. In these circumstances, the function of

money as a generator of homogenous societies was seriously compromised.

Among the anti-coin lobby there were two distinct groups. First there were those who refused to give up barter. Despite the expansion of trade in goods throughout Europe, barter was still favoured by countless rural communities. Also anti-coin, in a sense, were those who clung to the principle of the weight of precious metals (or even of salt) as a measure of value, thus excluding from their transactions the intrusion of any money-minting public authority.

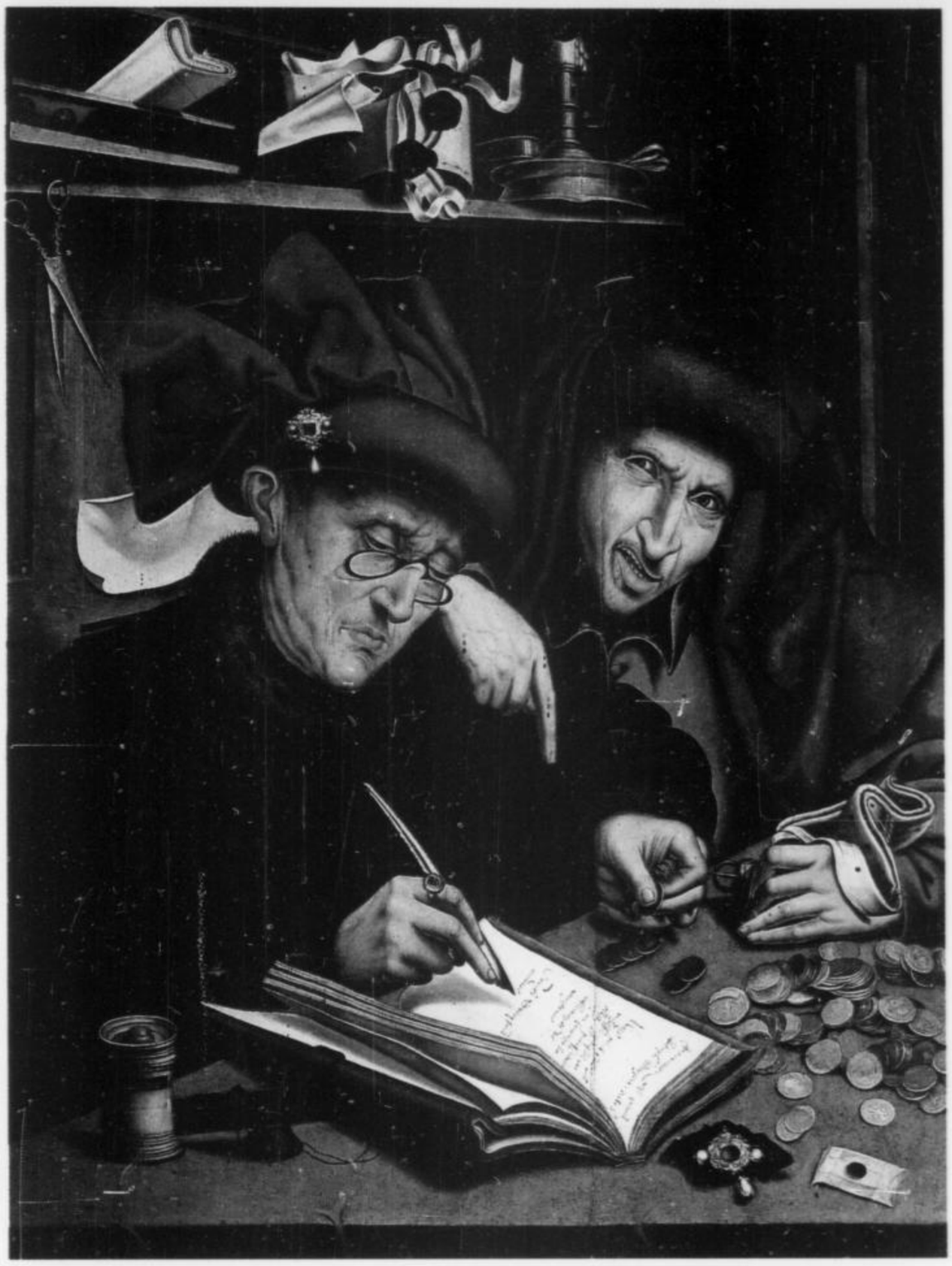
This principle could be applied in a number of ways. A so-called "gold clause" could be included in a fixed-term contract stipulating that payment would be made in a certain weight of metal or in a certain number of named coins, whatever their official value at the time as a unit of account. This clause, a relic from Roman law, did not disappear for a very long time. In on-the-spot transactions, distrust of the coinage meant that payment had to be made in raw metal on the basis of an agreed tariff. In sixteenth-century France, between a quarter and a third of all transactions were concluded in exchange for gold objects such as rings or goblets or for gold dust found in rivers (panning for gold was still practised) or even filed from coins.

Venture trading

In venture trading between Europe and the rest of the world, payment in metal was the only procedure employed. It is true that minted coins were used for the purchase of silk and spices from the Orient—chiefly the Spanish *excellente* and the Venetian *sequin* up to the mid-sixteenth century, and after that the Spanish silver *real*.

These rather rare coins had certain specific characteristics which made it impossible to substitute others for them. Made of pure metal at a virtually constant weight of between 3 and 4 grams, they were difficult to imitate and the heads with which they were stamped guaranteed only their conformity to this standard. They bore no unitary value whatever outside the realm which struck them. In trading between European countries these coins were exchanged by number or by weight in pure metal and they had no monetary status. In this respect, quite apart from the war, piracy and slave trading that accompanied it, the venture trading developed by the Europeans did not act as the cement of a world society.

The same was true of the deposit certificates that circulated within the various European countries. These certificates, which were not replaced by bank notes until a century or two later, had been issued from the fourteenth century by certain bankers against monies deposited in their coffers. They were the equivalent of a promise on the part of the banker of immediate payment on presentation and circulated like cash.



Above, **The Usurers** *by Marinus van Reymerswael (Dutch school, 16th century). Left, early 16th-century German miniature shows the banker Jakob II Fugger the Rich (right) checking the books with his chief accountant. Fugger's business interests stretched across central and western Europe.*

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The sluggish development of industry and the crafts was in part the cause and in part the consequence of the monetary practices of the time. Not enough wealth was being produced for there to be a consensus in society about its distribution, and priority expenditure on wars, land, services and imported luxury goods benefited primarily the non-productive social categories. Production thus remained basically agricultural. Surpluses were sold locally or at regional fairs, only at certain times of the year. Entrepreneurs had not yet arrived on the scene and the money dealers symbolized economic activity.

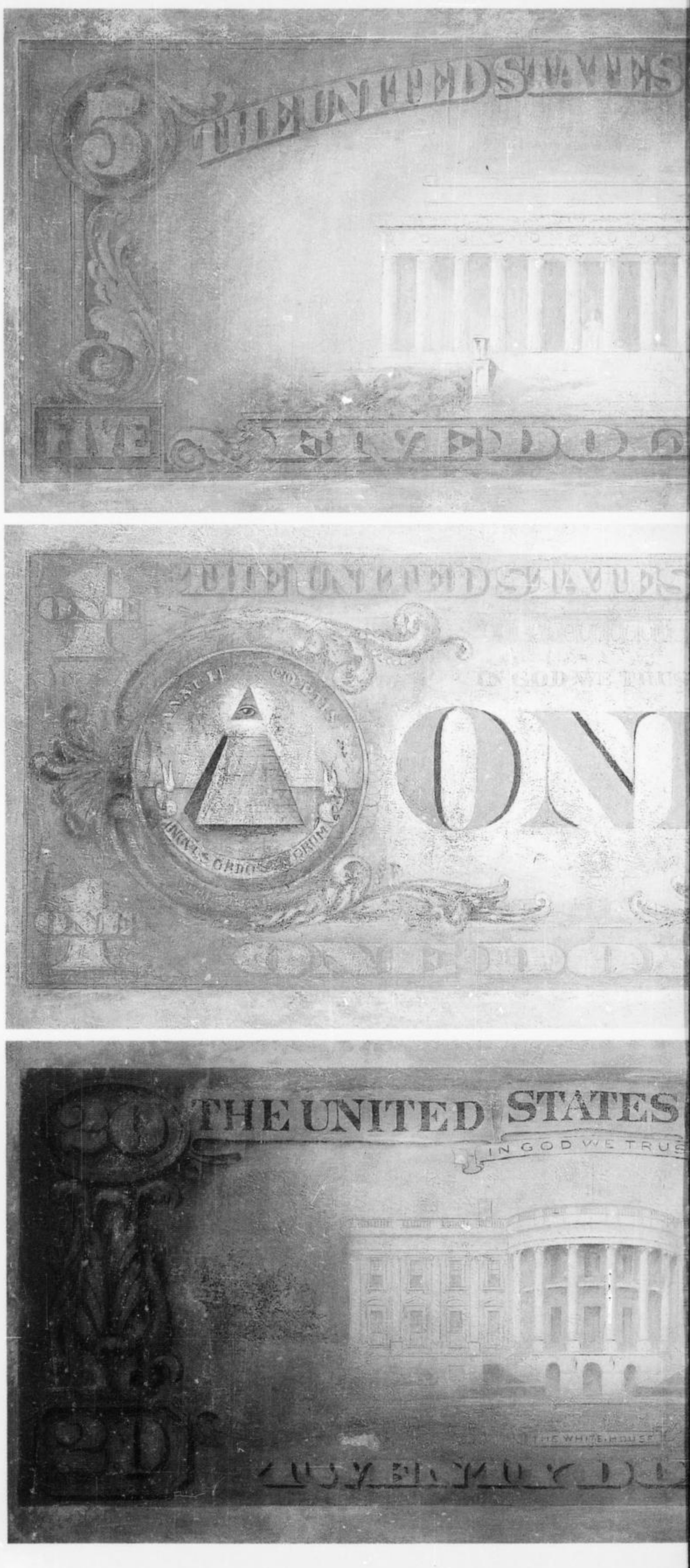
Merchant bankers

Among them were the merchant bankers, who reached their apogee during the sixteenth century and provide a perfect illustration of the nature of monetary operations at that time. Since the Middle Ages, there had been a redistribution of goods and raw materials between the various countries of Europe, and luxury goods from the Orient, and this gave rise to an intensive import/export trade concentrated on half a dozen large towns at which fairs were held periodically. The need to pay for goods purchased at these fairs gave rise to a specific activity—the conversion, at a price, of the various national units of account, that is, money-changing.

Carrying on a tradition dating back to the Champagne Fairs of the thirteenth century, the merchant bankers had the monopoly of the purchase and resale of the ordinary merchants' international debts (bills of exchange). They acquired their monopoly by their presence at all the European fairs, forming a network of agents through which other merchants were obliged to deal. This monopoly led to an agreed evaluation of each international debt expressed originally in the currency of a single country. In this way, during the sixteenth century, the merchant bankers, from their headquarters in Lyon, created what was in effect a Europe-wide monetary system.

In determining the international value of the various currencies, the merchant bankers inevitably came into conflict with their merchant clients, from whom they extracted a margin of profit. They also found themselves in conflict with rulers, who established official rates of exchange for foreign coinage that was allowed to circulate in their respective countries. Many variations and rises in price resulted from these conflicts of interest and these were aggravated by financial and banking rivalries within the circle of merchant bankers itself.

Thus, although through its function as a common yardstick of value money created social bonds, it was also, in practice, a cause of dissension. And though, in sixteenth-century Europe, it had become the new divinity, money, like man in whose image it was created, was still seeking the limits of its power. ■



The rise of the greenback

BY JAN KREGEL

The US dollar brought order to domestic monetary chaos and went on to become the leading international currency

Left, "The United States evoked through the symbolism of their currency" (1988-1989), three of a series of acrylic canvases by Isia Leviant (born Byelorussia, 1914). Each painting measures 90 x 210 cm. Above, silver coin issued in the state of Massachusetts in 1787.

In the last half of the nineteenth century, the British pound sterling ruled supreme as an international currency. Of all its possible rivals, the United States dollar[1] seemed the least likely to take its place. The United States was an international debtor of an uncertain quality without a central bank and without a single unified currency system. The dollar only rose to dominance in the twentieth century as a result of a tortuous sequence of events which led to the creation of a central banking authority, the Federal Reserve System, and to the adoption of the dollar as a liability of the federal government.

The United States Constitution adopted in 1789 did not grant the federal government the exclusive prerogative to issue coins and currency which was enjoyed by the Crown in European monetary systems. The absence of clear legislation on currency matters created a myriad of diverse means of payment virtually without any central control or support. In these chaotic conditions, foreign coins circulated as legal tender until 1857, and as late as 1901 an Oregon silver mine was still issuing its own silver coins for "commercial use".

In the aftermath of widespread default of currencies issued by individual states of the Union, they were prohibited from issuing paper money. But nothing prevented them from creating banks,

which were free to issue bank notes. The state of Kentucky, for example, created a private bank of which it was sole owner and proceeded to make payments with its notes. This individualist tradition in money matters found expression in "wildcat" banking and the prevalence in this period of state "free banking" laws which allowed any individual or association of individuals to open a bank and issue bank notes without licence or control.

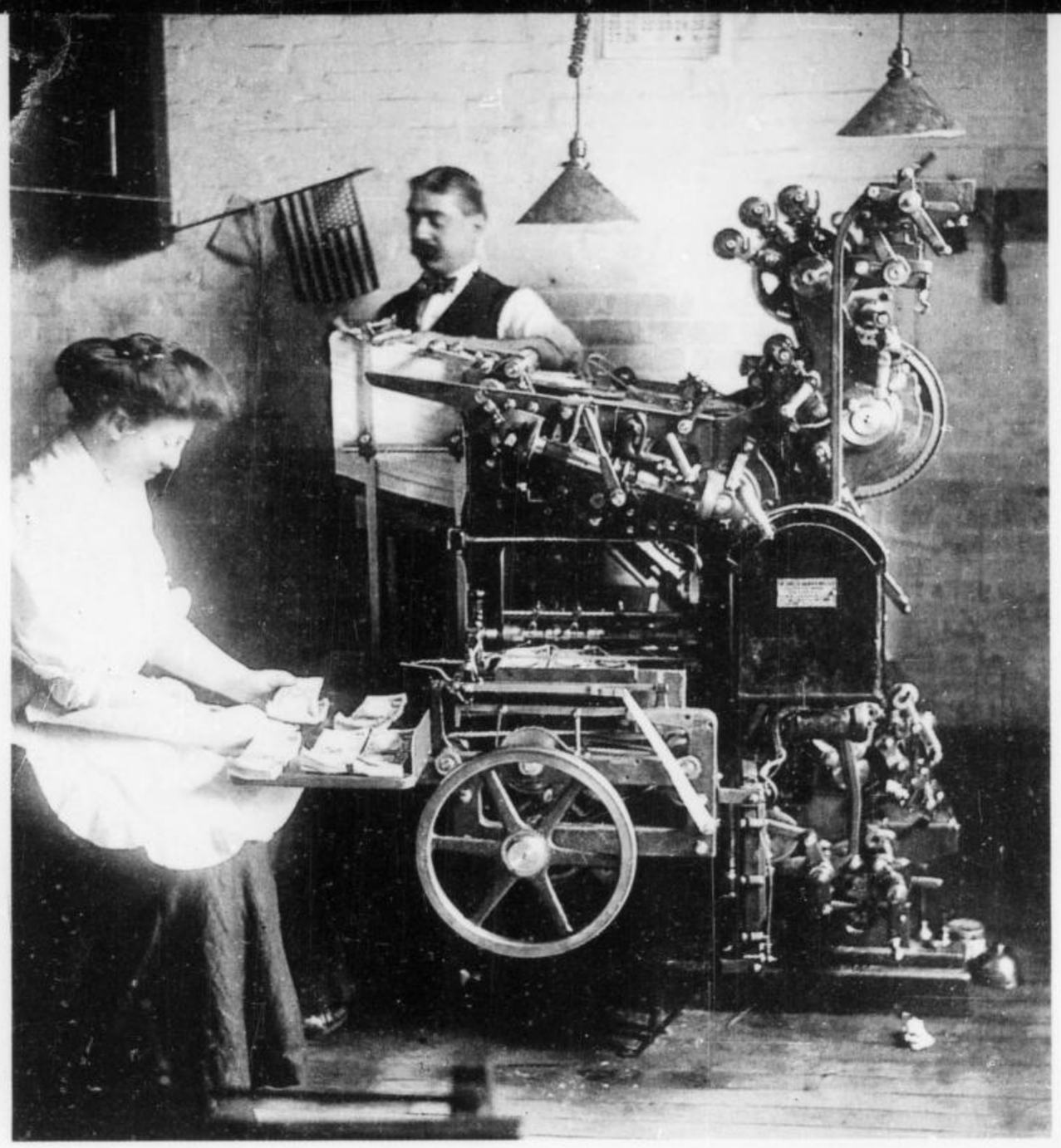
The absence of a national bank meant that even the federal government had to undertake its financial transactions either through private banks or in specie (coin or bullion). In 1840, President Martin Van Buren instituted the "Independent Treasury System" which handled government transactions through nationwide sub-offices. Since the Treasury was not a bank, and could not issue notes, all government receipts and expenditures had to be made in gold or silver. Expenditures in excess of taxation could not be financed except by issue of government debt subscribed in gold.

The Civil War and the first greenbacks

Many currency arrangements of the late nineteenth century can be traced back to the need to finance the Civil War of 1861 to 1865. The Treasury first issued "demand notes" which were not legal tender, but were convertible into gold. But the weak gold reserves of the Treasury soon led to the suspension of convertibility of these notes. Thereafter the war effort was financed by an issue of "United States Notes", based on nothing more substantial than the faith and credit of the government. They were popularly called "greenbacks", the name by which the United States dollar is still known throughout the world.

The issue of greenbacks had been limited to $433 million, so in the face of increasing difficulty in borrowing and of rising expenditures Treasury secretary Salmon P. Chase decided to apply "free banking" on a national scale. The National Bank Act of 1863 allowed any group of five persons to form a "National Banking Association" and issue "National Bank Notes" in an amount equal to their holdings of federal government bonds deposited with the Comptroller of the Currency.[2]

To prevent competition f. . state bank notes, a 10 per cent tax was placed on the latter which soon drove them out of circulation. The state banks countered by offering payment services by cheque against deposit accounts, which proved to be an attractive substitute for National Bank Notes.

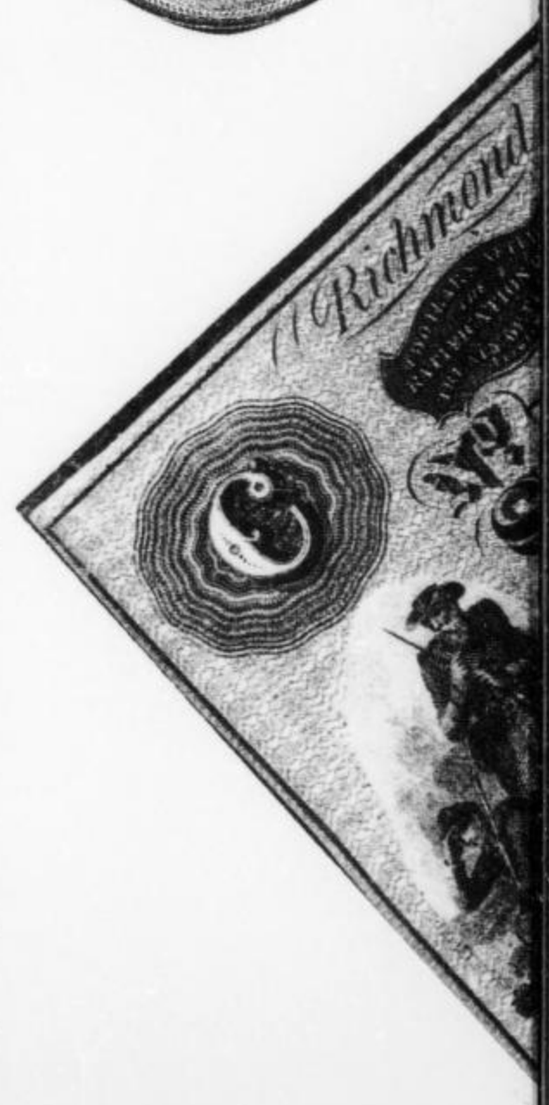


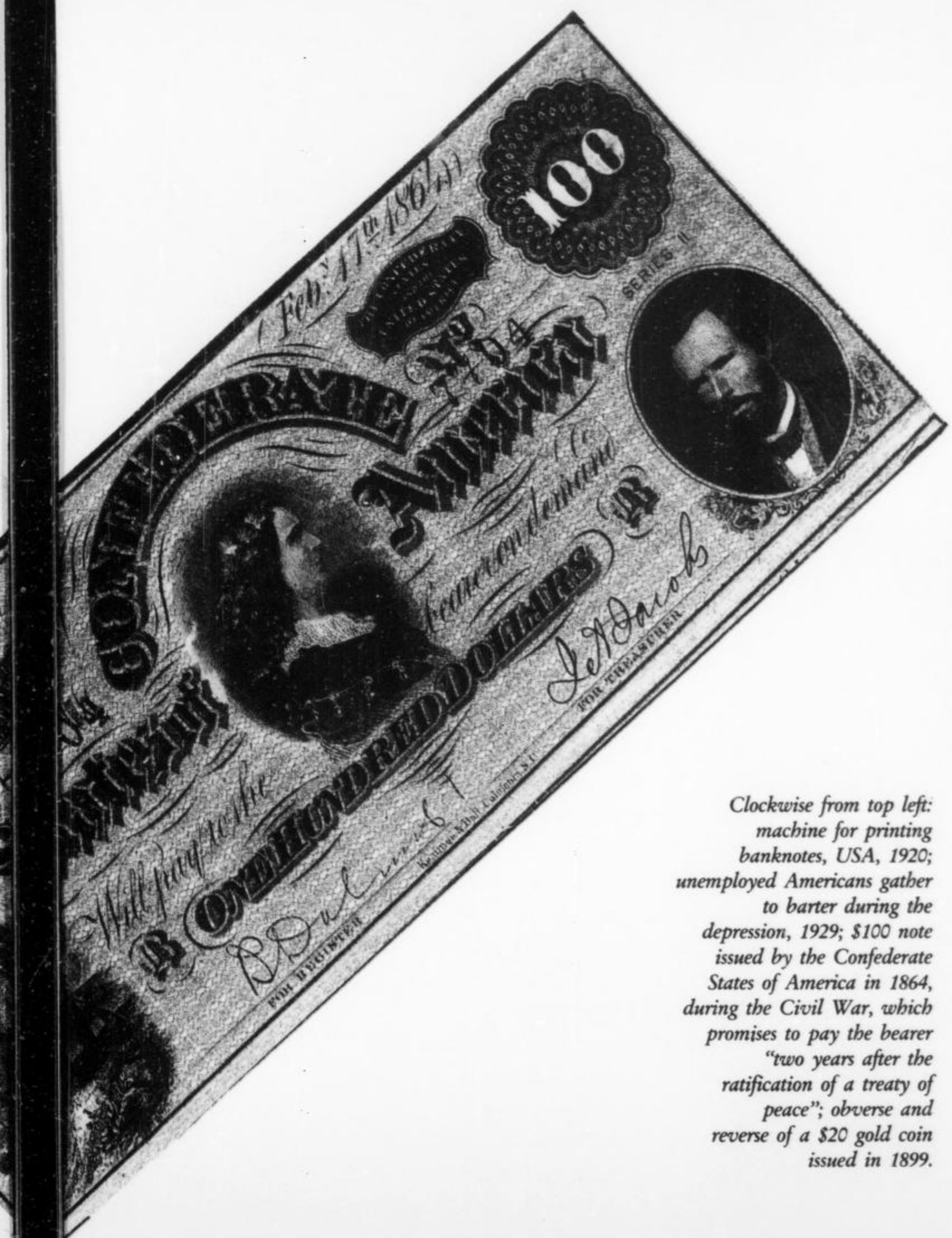
By the end of the Civil War, the multiplicity of means of payment representing the liabilities of thousands of state banks had been largely reduced to greenbacks and National Bank Notes, neither of which were convertible into specie, but the issue of which was strictly limited. The money supply of the United States was thus rigidly fixed, unable to respond to either fluctuations in trade, nor the frequent panics that resulted from the failures of the unregulated state banks (two years after the introduction of free banking in Michigan, for example, all of its forty banks had failed).

The dollar set firmly on the gold standard

As the United States was basically an agricultural country, the demands on currency were linked to the harvest. As crops were sold, farmers' bank deposits built up in the agricultural regions, leading to a shortage of funds in the urban banks of the east. The National Bank system of small individual units had no mechanism to recycle excess funds, such as was possible in a multi-branch bank. Furthermore, without a central bank to lend reserves, there was no way of meeting these fluctuations apart from sharp changes in interest rates, or declaring bank failure. Together with the net drain of specie to the Independent Treasury and the absence of strict banking regulations, this led to extreme instability and frequent crises.

This instability was attributed by some to a lack of specie, an argument exploited by those interested in making silver the basis of the United





Clockwise from top left: machine for printing banknotes, USA, 1920; unemployed Americans gather to barter during the depression, 1929; $100 note issued by the Confederate States of America in 1864, during the Civil War, which promises to pay the bearer "two years after the ratification of a treaty of peace"; obverse and reverse of a $20 gold coin issued in 1899.

States monetary system. A "Free Silver Movement" launched by William Jennings Bryan demanded the free coinage of silver as legal tender. The 1878 Bland-Allison Act provided for Treasury silver certificates which became legal tender in 1886 and the Sherman Silver Act of 1890 made the Treasury virtually liable to purchase the entire output of United States silver mines. In 1882 a similar provision was made for gold certificates, but neither measure gave the hoped-for elasticity to the currency.

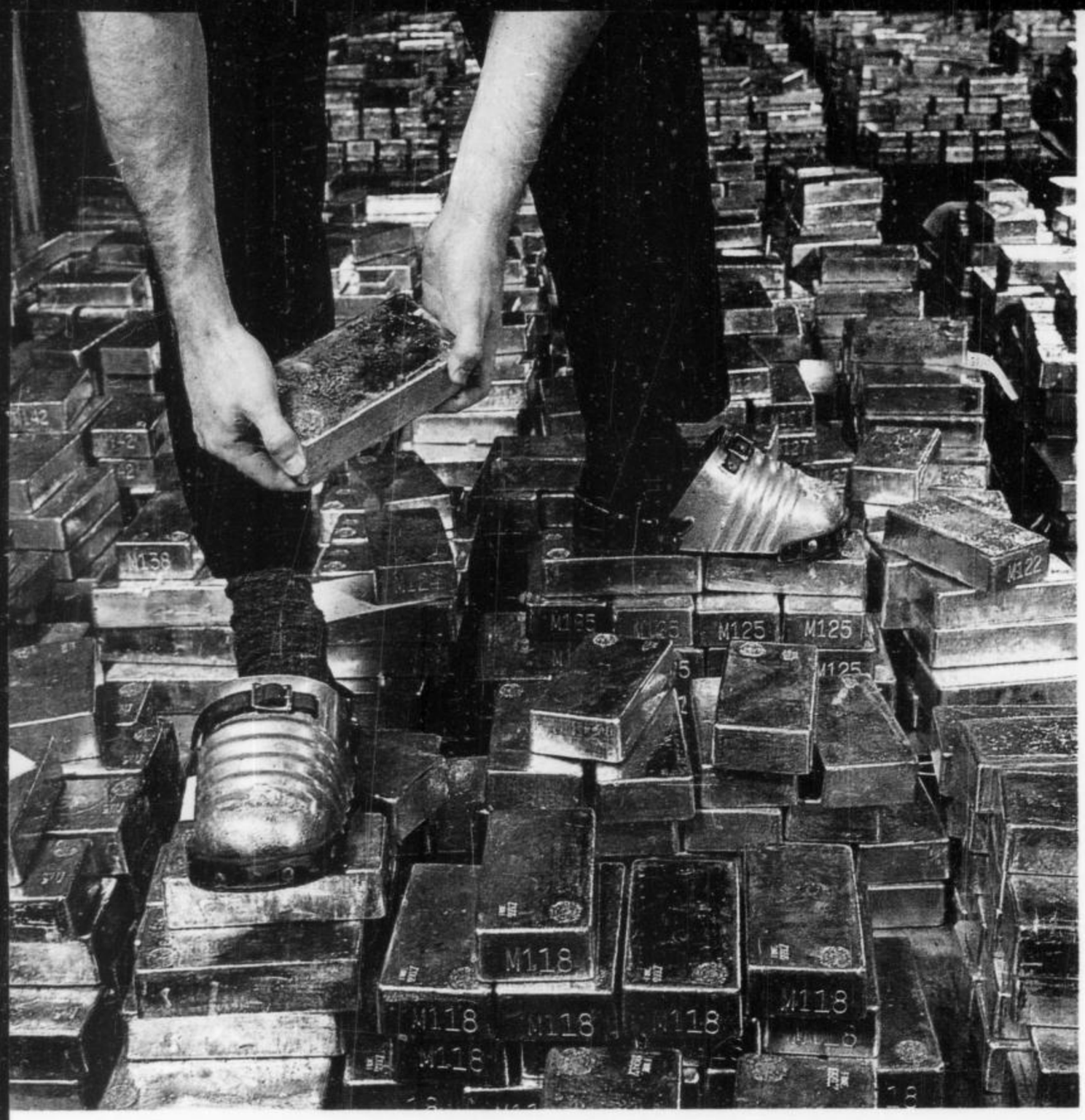
The system created serious international as well as domestic problems, for fluctuations in the internal demands for liquidity could only be met by international gold movements, which in turn created instability in the international monetary system. This was particularly striking in 1893, when the fear that the United States would not honour its government debt in gold and would instead pay in silver, whose price was collapsing on world markets, led to a massive outflow of gold and widespread bank failures.

Creation of the Federal Reserve system

The outflow was reversed by the Gold Standard Act of 1900, which set the dollar firmly on the gold standard[3] and required National Banks to back their note issues with gold. Between 1899 and 1910 the gold holdings of the public trebled, as did those of the Treasury. The proportion of the world's monetary gold stock held in the United States rose from around 15 to 30 per cent, at a time when many other countries (Austro-Hungary, Russia, Japan) were also adopting the gold standard. As the expansion of gold supplies was slowing, the accumulation of gold in the United States caused more difficulties than had the previous outflow, largely because once the gold entered the Treasury it could not be drawn out except to finance a balance of payments deficit (the country was then in surplus). Given the Independent Treasury System, gold could not be used as the basis to create money or to serve as lending of last resort.

Another banking crisis in 1907 forcefully reminded legislators of the need for a national institution which could respond to fluctuations in the demand for liquidity in some other way than by attracting gold from abroad. Such an institution was finally set up by the Federal Reserve Act of 1913.

The Act divided the country into twelve districts, each with its own Federal Reserve Bank, which began operations on 2 November 1914. The existing National Banks were obliged to join the



Gold ingots at the Federal Reserve Bank, New York.

system by purchasing stock in the Federal Reserve Banks. The latter were authorized to issue a new type of currency, the Federal Reserve Note, legal tender for all debts and the liability of both the banks and the United States government.

The new note was to replace National Bank Notes. The issue was backed by gold to a minimum of 40 per cent, the remaining notes being issued against commercial paper and other eligible assets acquired by discount from the member banks. This arrangement satisfied the need for an elastic means of payment which could expand and contract with fluctuations in trade and the situation of the banking system. A member bank that was short of liquidity could acquire it by discounting its assets in exchange for Federal Reserve Notes at its District Reserve Bank.

The Federal Reserve Board of governors, appointed by the President and based in Washington, D.C., sat rather uneasily over the Federal Reserve Banks which were owned and run by private bankers. It was by no means clear who was responsible for currency policy, but the bankers clearly had the upper hand.

However, the two prerequisites for the subsequent international dominance of the dollar had now been acquired: the massive accumulation of world gold stock in the United States, which obliged the international monetary system to move onto a gold-exchange standard, and the creation of a unified national currency issued by a single authority with lender of last resort capability.

The position of the United Kingdom was weakened by the 1914-1918 war, and the dollar entered the inter-war return to gold on a stronger basis than sterling. Moreover the United States economy, after a short recession, was to prosper in the "roaring 20s" of radio and automobiles.

The massive movement of investment funds to the United States, first caused by rapid growth and the stock market boom, then by high interest rates used to try to break the speculative rise on Wall Street, severely disrupted international finance and broke the stability of exchange rates. The stock market crash of 1929 brought about massive bank failures, which were far beyond the ability of the Federal Reserve to offset, and the consequent collapse of investment values was responsible for a worldwide depression.

The evidence of widespread bank fraud which emerged after the Wall Street crash suggested deficiencies in the supervisory function of the Federal Reserve Board and in its ability to regulate monetary policy to prevent even well-run banks from failing. A series of measures, including the nationalization of gold, the devaluation of the dollar to $35 per ounce of gold, and the 1935 Banking Act which gave the Federal Reserve Board control over monetary policy, finally created a system equivalent in its powers and duties to a European central bank.

Thus the inter-war period strengthened both the reserve position of the United States and the domestic financial system. The country was ready to take over London's role as banker to the world when the outbreak of the Second World War made the City unsafe and transformed the United Kingdom from an international creditor to an international debtor. The United States became the world's major creditor. Any country which wanted to buy goods for post-war reconstruction had to acquire dollars, and the dollar thus became the pre-eminent international currency. ■

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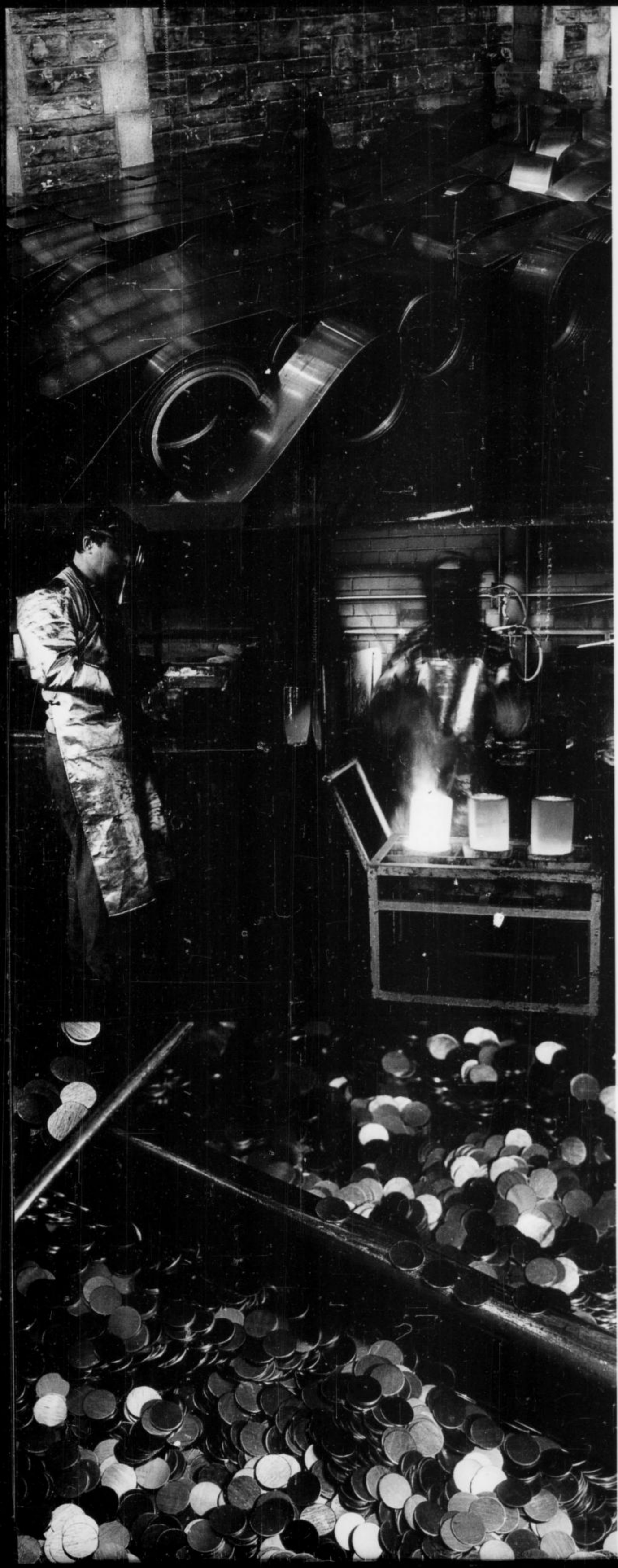
1. The Spanish peso, or piece of eight, which circulated in the Spanish and English colonies of America, was known as a dollar by the English-speaking peoples. Familiarity with this coin resulted in the designation of the United States monetary unit as the dollar in 1792. The word itself is a modified form of the Germanic word *thaler*.
2. A Treasury official responsible for the design and issue of National Bank Notes.
3. On the *full gold standard*, gold coins are in circulation and on demand bank notes can be exchanged for gold. This means that a country on the gold standard must keep an adequate reserve of gold to meet demand. On the *gold-exchange standard* a country keeps its reserves in another currency that is itself based on the gold standard. *Editor.*



Problems and paradoxes of money

The complex role of the monetary system in modern societies

BY GHISLAIN DELEPLACE

ECONOMISTS often seem to have a very curious view of money. In the eighteenth century, when banks were beginning to issue notes, which made it possible to create money without being dependent upon the production of precious metals, economists spread the idea that money was a secondary phenomenon which could be ignored in the study of fundamental economic laws. Yet this viewpoint, which has been dominant ever since, does not prevent economists from fulminating regularly against the evils of monetary disorder, which they hold responsible for economic instability, whilst according money only a secondary role in the functioning of economies. This doubly paradoxical attitude at least has the merit of focusing attention on the complexity of the role money plays in modern societies.

Nevertheless, it was the problem of the monetary analysis of society that gave impetus to the development of economic thought in Renaissance Europe. Money was seen as both the symbol of merchants' wealth and an attribute of royal power. At the time, the relationship between princes and merchants was the central theme of monetary analysis and the basis of an economic theory of society.

This approach was to change radically in the eighteenth century, as witness these words of the British philosopher David Hume (1711-1776): "Money is not, properly speaking, one of the subjects of commerce; but only the instrument which men have agreed upon to facilitate the exchange of one commodity for another. It is none of the wheels of trade: it is the oil which renders the motion of the wheels more smooth and easy."

Making copper coins at the Royal Canadian Mint

This purely instrumental view of money was part of a vision of society in which the market was the sole regulating mechanism. Its effect was to leave the monarch, or the state, on the sidelines with no co-ordinating role to play between private agents, since these were all merchants naturally interlinked within a "commercial society". It also reduced money to little more than a veil that cloaked the exchange of goods and that had to be pulled aside if the realities of economic phenomena were to be analysed. Any attempt by the state to take an active hand in the management of money was therefore seen as a threat to social harmony, which the laws of competition were assumed to engender automatically.

Thus the progressive "dematerialization" of money is seen as a means of simplifying the procedures of trade. Some object in common currency within a community is used as money. We have seen this role fulfilled successively by some form of metal, gold or silver bullion, coins, gold certificates, bank notes, cheques and credit cards—and electronic money is on its way. As a result of this "dematerialization" process, money has become nothing more than a transfer mechanism with no link to any material object as a guarantee of its value.

A form of wealth or a transfer mechanism?

However well it matches up to a view of society that favours the regulating influence of the market, this liberal, instrumental conception of money is not without its own paradoxes. Chief of these is that, leaving aside any question of intervention by the state, the very nature of monetary exchanges makes the existence of "good" money, that is to say an instrument that properly fulfils its function as a medium of exchange, difficult, if not impossible.

Unlike barter, in which the buyer of item X is at the same time the seller of item Y, exchanges involving money comprise two distinct transactions which do not take place simultaneously. The vendor first sells Y for money (i.e. he buys nothing), and then uses this money to buy X (i.e. he sells nothing). If money is merely an instrument of exchange, the person involved in the transaction will not go ahead with it unless it is to his advantage. According to the textbooks, one advantage is that it is easier to find a buyer of Y and a seller of X than to uncover the double coincidence of a single person wanting to buy Y and sell X.

The problem remains, however, of ensuring that this advantage is not reduced to nothing by some impediment that will prevent the individual from using the money obtained from selling Y to buy X, or that he may not obtain as much of X with money as he would have done by barter. For the private individual to choose the monetary exchange method—and it is essential to the liberal, instrumental approach argument that he should do so—it is necessary that the money he has obtained as a seller remains a *store of purchasing power* throughout the period of time that elapses between the two transactions.

This Austrian silver thaler struck in 1780 bears the head of the archduchess Maria Theresa. Such coins circulated from the Red Sea to the Atlantic.

Herein lies the paradox. If the instrument chosen as money fails properly to fulfil its function as a store of purchasing power (in the sense that there is nothing to guarantee that this purchasing power will remain constant), those who hold it will be induced to get rid of it as soon as they have received it, or even simply to go back to barter. This is often seen to occur in situations of hyperinflation.

On the other hand, if the instrument chosen as money fulfils this function well, the private individual will tend to hold it as a form of wealth, taking it out of circulation and preventing it from fulfilling its other function as a medium of exchange.

Checking banknotes in the Bank of England, London (1871).
Opposite page: Top, the French numismatist Joseph Pellerin (1684-1782), who had a collection of 32,500 rare coins. The impact of inflation in Germany in 1923 is illustrated by the 50,000 million mark note (centre) and the children paying for their schooling with food (below).

This phenomenon, which has become known as "Gresham's Law" (after the sixteenth-century English financier Sir Thomas Gresham who observed that "Bad money drives out good"), was recognized very early on with regard to metal-based coins. However, it is equally applicable to fiat money* since it is based on the trust placed in it by business as a store of purchasing power. In the 1930s, the British economist John Maynard Keynes maintained that "liquidity preference" was the main reason why a monetary economy was unable to achieve a stable level of full employment. At the international level "Triffin's dilemma" (so named for the American economist Professor Robert Triffin) highlighted the fact that, in the 1950s, the United States was no longer in a position both to ensure world liquidity and maintain confidence in the dollar as a reserve currency.

It is thus illusory to consider money as merely a medium of exchange engendered by market forces; and if it is taken as a principle that business people "choose" to hold money simply on the basis of an economic calculation, this will increase the risk of monetary disorder.

* Fiat money is money declared by a government to be legal tender though it is not convertible into specie. *Editor*

In opposition to the liberal, instrumental theory of money there is the institutional, interventionist approach, which introduces a number of interesting concepts. Money is not an appendage but the *sine qua non* of the existence of the market, and its appropriate management produces less disorder and makes it possible to act favourably on the economy as a whole.

This concept, however, became associated with the notion that money is basically created by the state and that the state's monetary power is reflected in the institution of legal tender for fiat money. This was notably the case after the First World War. This reduction of money to the status of an attribute of state power itself led to some paradoxical situations, the main one being that the history of money is the history of the struggle of private individuals against this aspect of state power.

Constraints on the monetary power of the state

This situation had arisen before with metal-based money. In the sixteenth century, this money did not circulate as stamped gold or silver ingots but as coins, the minting of which was the monopoly of the monarch and to which he attributed a legal value in units of account. Gold and silver were not commodity money; they became metal coinage by royal decree. Private business was unceasingly hostile to this legally fixed circulating value and instead adopted "voluntary values" which were usually higher. The depreciation of the currency that resulted—because in practice the unit of account represented less gold or silver than officially maintained—was effectively a form of inflation, which went to show that the monarch could not simply regulate money as he thought fit.

The monetary power of the state was thus subject to two important constraints. Firstly, the decisions taken by private business had their effect on the *creation* of money, both on the supply side (the impossibility of ensuring rigorous control of the minting of metal coinage; the relative autonomy enjoyed by the banks in the field of fiat money), and on the demand side (the volume of money created being ultimately dependent on the decisions of individuals as to whether to bring their gold to the mint or to borrow from the banks). Secondly, the attitude of private individuals with regard to the *circulation* of currency could express their resistance to public control of the currency and lead to its internal depreciation (inflation) or external depreciation (a fall in the exchange rate).

If these two conflicting views of money are considered together, it can be seen that money is neither a form of merchandise (with its own intrinsic value) nor an attribute of state power. Rather, it is a prerequisite for the existence of markets and the expression of a certain social cohesion that enables the state to fulfil its

Nr. 7524 Gutschein 50
des Kreises Ziegenhain
über
50 Milliarden Mk.
Dieser Schein hat nur Gültigkeit für den Kreis Ziegenhain und wird von der Kreissparkasse Ziegenhain gegen Reichswährung eingelöst.
Ziegenhain, den 3. November 1923.
Der Kreisausschuß

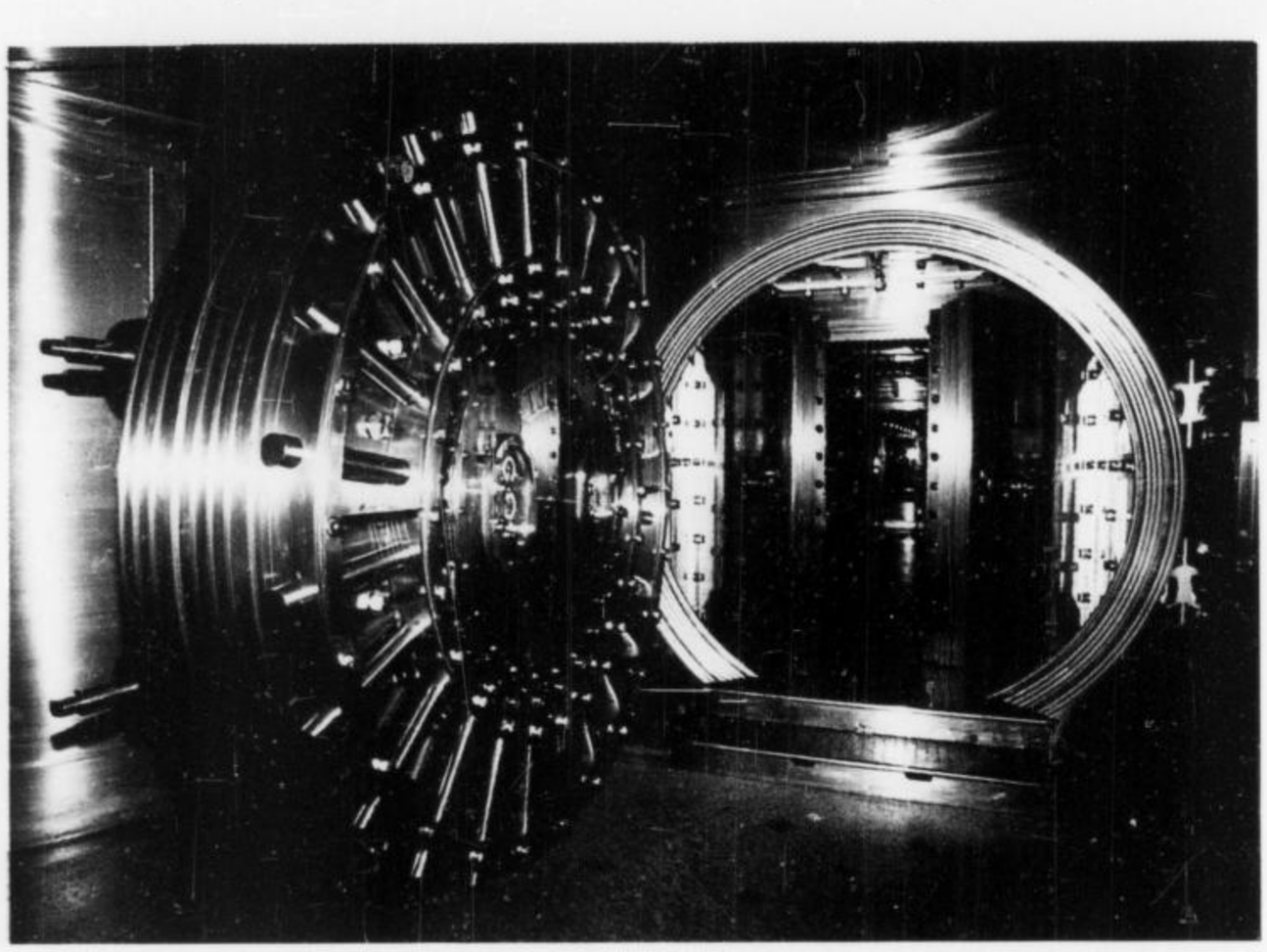
functions. A monetary regime is a set of rules of conduct specific to a given society.

What then is the difference between the money of the past and that of today? It is often stated that modern money is fiat money, whereas the money of the past was commodity money; that the metal-based money of the past had its own intrinsic value regulated by the mechanisms of the metal market while the "dematerialized" money of today is based solely on the confidence inspired by the state, which imposes its legal tender. Such an assessment is inadequate. No monetary economy can exist without some form of abstract unit of account, and this can perfectly well coexist with a metal-based coinage.

Money today

Modern money can, however, be defined in terms of two characteristics of a bank-based monetary regime. Firstly, the banks' issuing function enables a certain category of people, the entrepreneurs, to obtain money on the basis of a *promise of future activity.* Even though bank credit is today made available to people of all economic categories, there is a fundamental difference between those—in particular wage earners—who can borrow on the strength of income received in the past (or the probability that they will continue to receive such income in the future), and those—the entrepreneurs—to whom credit is advanced on the basis of a planned trading project the success of which (on which repayment of the loan depends) is uncertain. This credit issuing function of the banks thus introduces an element of social discrimination. It is, however, a factor that promotes economic dynamism, since, as Keynes observed, "it allows entrepreneurs to go ahead with assurance".

Secondly, the banking system is hierarchical in organization, with the activity of the second rank of banks being dependent on the existence of a *lender of last resort.* This "banks' bank", or central bank, plays a dual role. On the one hand it acts as a clearing house for payments between banks and to this effect sets the bank money rate in terms of the national monetary unit. Contrary to what is generally thought, a franc, a dollar or a pound issued by one commercial bank is not the same as that issued by another. The acceptance of cheques drawn on this or that bank—and thus the use of bank deposits as money—implies a system of compensatory payments organized by a central body.



Looking into the strongroom at a major French bank.

On the other hand, the central bank guarantees the other banks against defaults on loans, which are a risk inherent in the loan mechanisms described above, by allowing these banks to refinance such loans in central bank money. This method of insurance, while certainly not automatic, tends through its effects on inflation and the exchange rate to spread over society as a whole the burden of the consequences of the failure of some entrepreneurs to meet their obligation to repay loans. Nevertheless, as we see today, it provides the system with a degree of elasticity which tends to prevent the multiplication of bankruptcies.

These characteristics demonstrate that the origins of the modern monetary system predate the time when it supplanted metal-based coinage. To find them we have to go back to the sixteenth century and the relationship between metal coinage minted by monarchs—central money—and the bills of exchange that the Italian merchant bankers circulated throughout Europe—bank money.

The yardstick of social intercourse, money is the embodiment of the rules that make possible the complex interplay of economies. Paradoxical in nature since it appears to be the consequence of the economic activity of which it is a prerequisite, it is hardly surprising that money is both a matter of practical concern and a source of theoretical debate. ■

GHISLAIN DELEPLACE, of France, is professor of economics at the University of Orléans. He is the author of *Théories du Capitalisme* (Maspéro publishers, Paris, 1979) and co-author (with Marie-Thérèse Boyer-Xambeu and Lucien Gillard) of *Monnaie privée et pouvoir des princes: L'économie des relations monétaires à la Renaissance* (1986), an English version of which is currently being prepared for publication.

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BARCELONA'S GREAT ARCHITECT ON FILM

The first prize in the 2nd Lausanne International Festival of Architecture and Town Planning Films was awarded to *Gaudí* by Manuel Huerga (Spain 1988, 35 mm black and white, 57 minutes). The film covers the major events in the life and times of the great Barcelona architect Antonio Gaudí (1852-1926).

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MUMMIFIED ENZYME

Scientists at the University of Tübingen, Fed. Rep. of Germany, have shown an enzyme extracted from the cerebral tissue of a 3,100-year-old mummy to be in perfect "working order". A control experiment proved that the activity of the enzyme was not due to bacterial contamination.

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EUROPEAN LITERACY PRIZE CREATED

Over a hundred European artists and intellectuals recently attended a meeting held at Blois (France) on the invitation of France's minister of culture and communication, Mr. Jack Lang. They decided to convene an official meeting in Paris later this year to discuss the "freedom of movement of cultural property" and to create an annual European literary prize which will be awarded for the first time in Glasgow (UK) in 1990.

●●●

ADVICE TO AN AUTHOR

The noted Algerian writer Kateb Yacine, whose novel *Nedjma* (1956) had a powerful influence on North African literature written in French, died in October 1989. One story about him illustrates the position of the writer in societies where illiteracy is widespread. Yacine was once stopped in Sidi Bel Abbes by an old man who said to him: "It appears that you're a writer. If you are, then sit down and listen to me."

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NEXT STOP JUPITER

On 18 October 1989 the American space shuttle Atlantis launched the spacecraft Galileo on a 6-year voyage of some 3,900 million kilometres. By July 1995 Galileo will be near enough to Jupiter to collect detailed information about the planet and its 16 known satellites. The data transmitted during the voyage are expected to be of major importance in increasing our knowledge of the universe.

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KASPAROV CRUSHES COMPUTER

World chess champion Garri Kasparov, of the USSR, has defeated Deep Thought, a high-powered computer created by graduate students at Carnegie-Mellon University in Pittsburgh, USA. In the first of 2 games, the computer retired after Kasparov's 52nd move and 20 hours of play. In the second Deep Thought surrendered after 37 moves and 2 hours. The computer can analyze a possible 700,000 positions per second and 5 to 20 moves ahead by each side. "It's a good player," said Kasparov, "but without position and experience."

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NEW DIRECTION FOR BERLIN PHILHARMONIC

The Italian musician Claudio Abbado has succeeded Herbert von Karajan, who died on 16 July 1989, as music director of the Berlin Philharmonic Orchestra. He was elected to this prestigious post last October by a secret ballot of the orchestra's 120 musicians.

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GENETICS AND HUMAN RIGHTS

A seminar on the genetic heritage and human rights was held in Paris in October 1989. It was organized by the European Commission, the University of Paris VII (Jussieu) and the European Research University, in collaboration with Unesco, the French National Institute of Health and Medical Research (INSERM) and the French ministries of research and technology and of foreign affairs. A broad range of issues relating to genetic research was discussed by biologists, medical doctors, philosophers, jurists and researchers in the human sciences.

●●●

FRENCH RESEARCH BODY CELEBRATES 50TH ANNIVERSARY

France's National Centre for Scientific Research (CNRS), founded in October 1939, has reached its half-century. With a budget of over 9,000 million francs, some 26,000 employees (researchers, engineers, technicians and administrators), 1,300 laboratories (wholly owned or associated), the CNRS has co-operation agreements with 55 overseas centres and is Europe's biggest research institution.

●●●

PSYCHIATRY AND THE ENVIRONMENT

Over 4,600 psychiatrists from 81 countries took part in the 8th World Congress of Psychiatry (Athens, 12-19 October 1989). The participants recognized the important role played by the environment, as well as by genetic factors, in mental illnesses and their treatment.

●●●

WORLD PEACE AND SECURITY

In a recent interview with the Paris daily *Le Figaro*, the Secretary-General of the United Nations, Mr. Javier Pérez de Cuéllar, evoked the role of the Secretary-General. "I cannot fight alone," he said. "Member states must help me. All I have is moral force. Political and military force lie with the Security Council."

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SOUTH/SOUTH CO-OPERATION

Representatives of heads of state and governments of 15 Latin American, African and Asian countries met on 6 and 7 November 1989 in Geneva to discuss the basis of a plan of action for South/South co-operation. A summit meeting will be held in May 1990, probably in India.

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THE SPECTRE OF SEVESO

Over 13 years after the catastrophe at Seveso, near Milan, laboratory analyses carried out recently by the University of Missouri, USA, have revealed the accumulation of a tonne of the highly toxic chemical dioxin in the subsoil at a chemical factory in the region of Cengio, north of Genoa. The Italian government has asked the Istituto Superiore di Sanità, a public health research institute, to carry out an independent analysis and proposes to invite the World Health Organization to examine the results.

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BAN ON INTERNATIONAL IVORY TRADE

The 7th conference of CITES (the Convention on International Trade in Endangered Species) ended on 20 October 1989 at Lausanne with a consensus decision for a total ban on the international trade in ivory until 1992, when the next CITES conference will be held.

THE STRUGGLE OF DAY AND NIGHT

BY ABDOL-HOSSEYN ZARRINKOUB

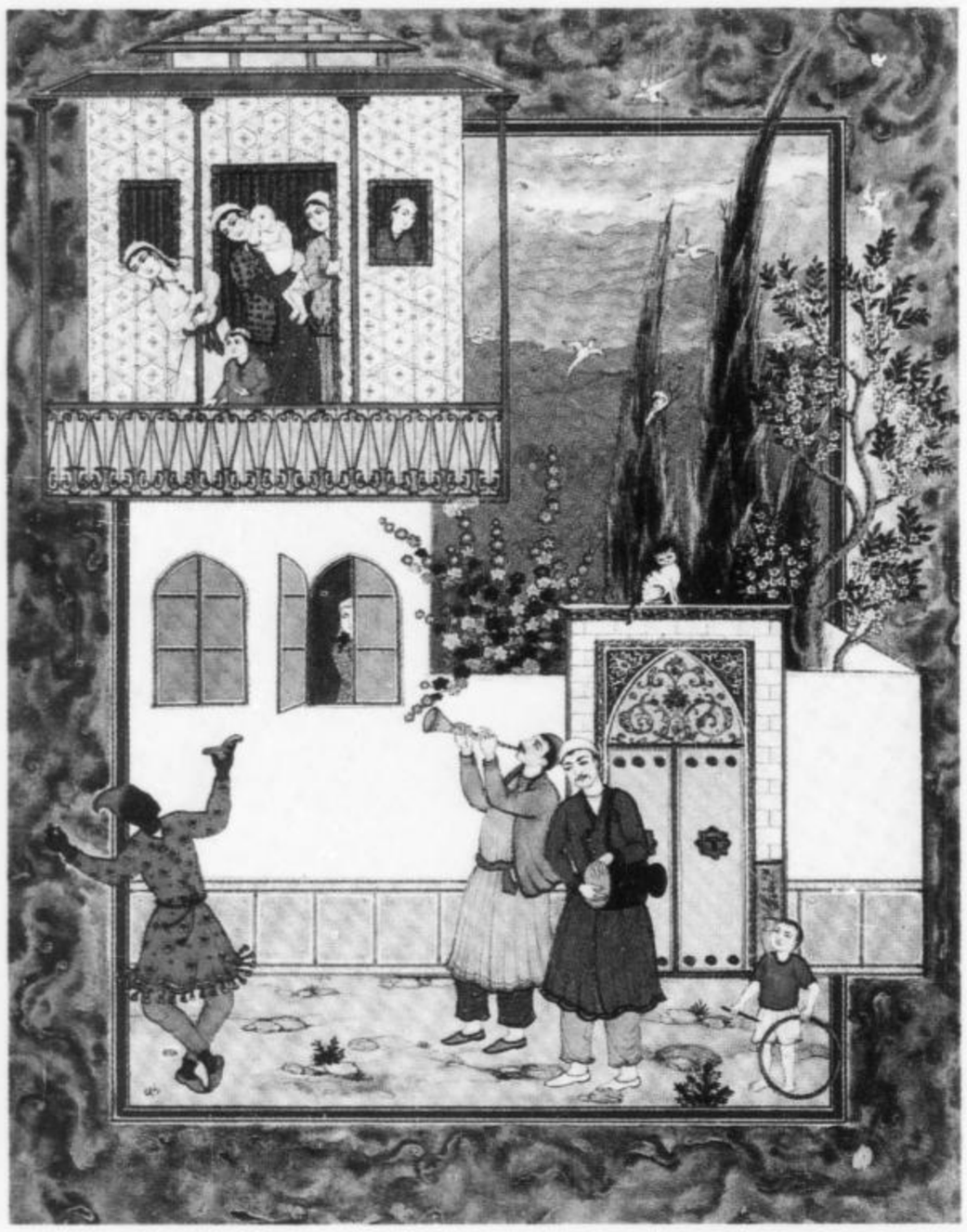
ALL Iranians, whatever their religious beliefs, language or origins and wherever they live, are strongly attached to *Now Rouz* (New Year). This festival, which does not feature in the Islamic lunar calendar, begins the solar year at the spring equinox, 21 March. Lasting around two weeks, it is the longest of all Iranian feasts and its rites are the richest in symbolism.

The ceremonial includes customs from pre-Islamic festivals and rites introduced by people of non-Iranian origin, such as the Jews, and even borrowings from rites practised elsewhere.

Two weeks before *Now Rouz*, each household traditionally grows a plate of sprouts of wheat, barley or lentils as omens of a good harvest or as tokens of fruitfulness in the future. This significant ritual is followed by two important celebrations which mark the closing days of the year and prepare for *Now Rouz* proper.

At nightfall on "Ember Wednesday" (*Tchahârshamba-souri)* a bonfire of brambles and other dry plants is lit. Men and women, old and young leap over the flames shouting "Fire that burns! Fire! Fire! May your red come to me and my yellow go to you!" The light of the flames symbolizes the Sun. By challenging the setting Sun to shine more brightly and to compete with the fire, they urge it to throw off its winter torpor. Once the fire has gone out, earthenware pots and vases filled with water, and a variety of other objects, are hurled from the top of the house to shouts of *"Dard-o balâ! Dard-o balâ!"* ("Pain and unhappiness!"). Wednesday being traditionally considered as a day of ill-omen, in this way misfortune is averted and unhappiness symbolically banished from the house.

On the same day, people try to foresee the future. The omens are read in various ways. Women who want a child, girls who have not yet found a husband, men who are hoping to conclude a successful business deal or even to get married, go out into the streets or stay behind closed doors eavesdropping on conversations between people they do not know. They interpret the words they overhear as omens of the future and make wishes and pray to try to ward off misfortune. Another custom is for women and children in disguise, their faces hidden, to go out into the streets at twilight carrying an empty receptacle and bang on doors with a spoon. They say nothing but go on knocking until someone opens a door and gives them a present.



***Now Rouz (New Year) festival*, (1984), by Morteza Rafii.**

Purification and fireworks

The second end-of-year celebration, the "Day of Reckoning" *(rouz-e barât)* is the Iranian day of the dead. On the last Thursday of the year alms and gifts are distributed at the cemetery: money, food, halva or new clothes are given so that the poor can celebrate the feast. The house is cleaned from top to bottom—this is a vestige of a pre-Islamic festival. In this way the living seek to pay their debts to the departed and attract the benevolence of their ancestors.

The "spring cleaning" *(Khana Takani)* done before New Year is more than just a cleaning operation. From cellar to attic, from carpets to bedding, everything must be made as good as new. A new life is dawning and the house must be symbolically purified and thoroughly cleansed as if it were a human body, by being carefully washed and by wearing new clothes.

For the New Year ceremonial, the plate of sprouting grain and the tray of the "seven *sin*" must be placed on the *Now Rouz* cloth in front of a mirror lit by as many candles as there are members of the household, a copy of the Qur'an, a bowl of milk, a bowl of yoghurt, and gifts of coins. While they are waiting for the New Year to begin, the parents and other older people pray that the year will be propitious and recite the Qur'an to bring blessings and happiness to the family. Immediately afterwards, sweetmeats are eaten. Their taste presages a happy year.

The tray of the "seven *sin*" contains seven products whose names in Persian, Turkish or Arabic begin with the letter *sin*, the initial letter of the Persian words for green *(sabz)* and white *(safid)*, colours which symbolize respectively the renewal of springtime and the purity that wards off demons. Today the tradition has changed: everyone can choose seven symbols representing renewal, creation, abundance and wealth. The number 7 is a sacred number, as it was for the Babylonians and the ancient Hebrews, linked to the idea of creation which runs through all the symbolism of *Now Rouz*.

On New Year's Eve, fireworks are set off in the courtyard of the house or on the terrace. They symbolize the combat between dark, gloomy winter and bright, joyful spring; the victory of fire over darkness, a re-enactment of the moment when the world of shadows is attacked by the world of light, the moment of Creation.

On the morning of the big day the children are given gold coins, cakes and hard-boiled eggs that have been painted, decorated and wrapped as gifts. They have been cooked in a brew of onion peel, walnut shells or

ABDOL-HOSSEYN ZARRINKOUB, Iranian historian and specialist in Oriental literature, is professor of history at the University of Tehran and the author of more than thirty books. His latest work is a study on the Persian poet Hafez.

straw so that they are coloured green, brown or yellow. They symbolize the renewal of the world and they are a pledge of fruitfulness.

Return to paradise

The first thirteen days of the year are a time of rejoicing. Children think only of play and adults of visiting each other. The real purpose of these joyful days is to rediscover an original state of purity and equality. Relations with friends and neighbours begin anew. People visit everyone, the mighty and the humble. The period of mourning for those who died the previous year is ended. The straightjacket of convention is broken, though indulgence in licentiousness is not encouraged. Distances due to social rank are abolished. Everyone, rich and poor, enjoys the same kind of food and recreations and wears brightly-coloured new clothes. Work stops in fields and factories. All the rites performed at this time look back to a lost paradise, the original earthly paradise in which the divine breath infuses humankind with a feeling of spiritual fraternity and equality.

On the "Thirteenth day outside" *(Sizdah bedar)* the mount of the demon of cold is driven from the city. The cereals that have sprouted in the plate are thrown into the river after being examined by the elders in an attempt to predict the weather during the coming year.

This day inaugurates a happy New Year. Friends and neighbours usually organize a picnic in the countryside at which noodle soup or dishes of rice in sauce are eaten. People go and see the streams and rivers swollen with melted snow. The young play traditional games and sports, and the girls weave together fresh herbs, singing as they do so in a low voice: "The thirteenth day, next year, at my husband's, a baby in my arms!" *(Sizdah bedar - sal-e degar - khäna-ye shouhar - batcha baqual).* No conflict should be initiated on that day.

In all the rites of *Now Rouz,* whatever their origin, there is one constantly recurring feature: the conflict between light and darkness, in keeping with the old Zoroastrian dualism. It is no coincidence that legend should attribute the invention of this feast to Jamshid or Feridun, legendary kings and divine heroes who triumphed over the forces of darkness. But if Islam has kept up this Zoroastrian feast, it is because of the role it plays in the stabilization of the fiscal year and also because of its jovial and lively ceremonies which were highly esteemed at the courts of the caliphs and the sultans. The singing and music which always mark *Now Rouz* explain why the sufis are interested in this festival. ■

Table spread with ceremonial objects to celebrate Iran's New Year festival.

CARNIVAL IN LUANDA

BY DOMINGOS VAN-DUNEM

I spent part of my childhood at Museke Marçal, a poor district of the city of Luanda where, people used to say, "the children only bathe when rain fills the lagoon of Moreira". There, fifty-odd years ago, my family and I enjoyed the bittersweet privilege of taking part in that matchless popular spectacle, the Luanda carnival.

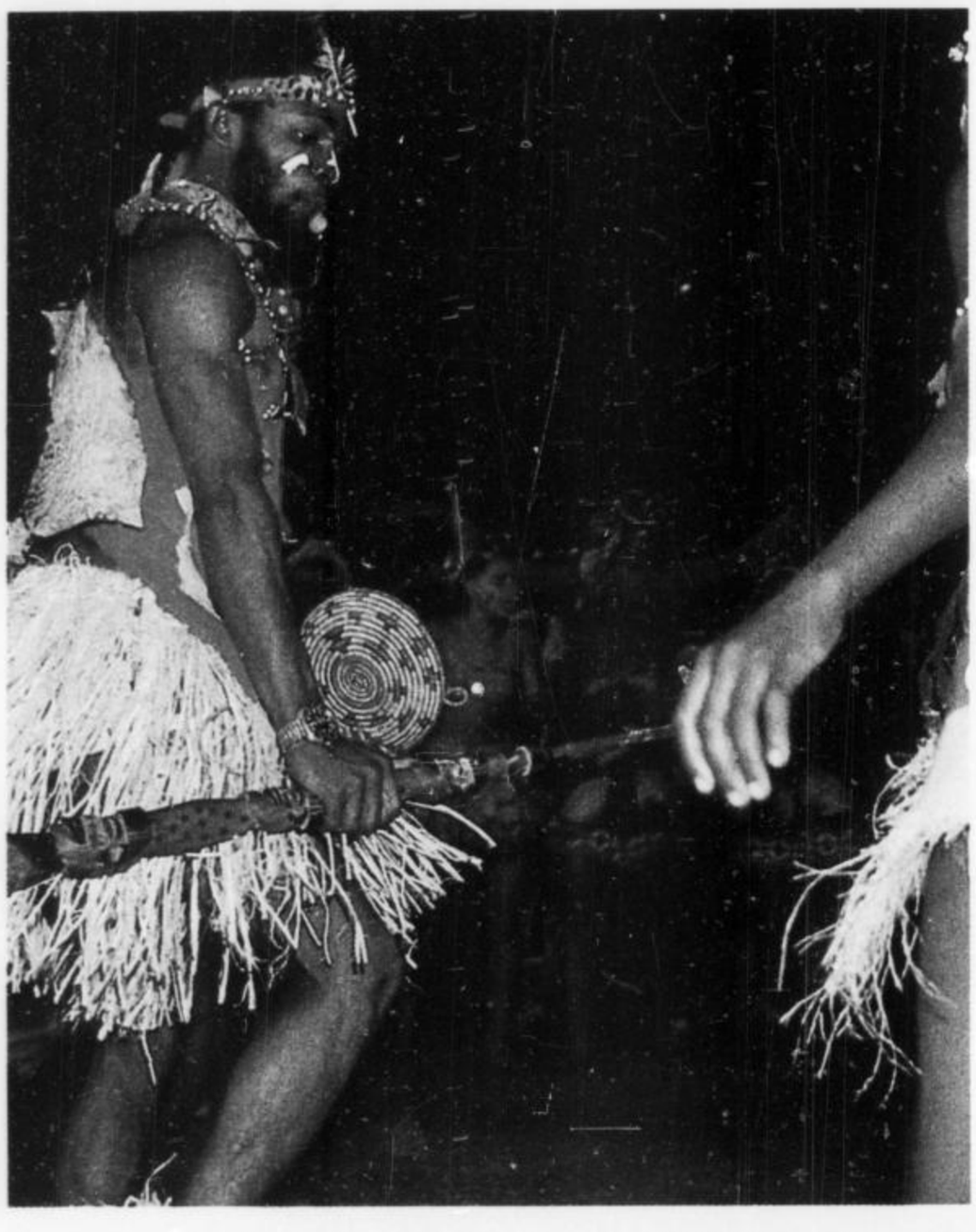
The city was divided into districts, each of which was the territory of one of the traditional troupes known as *turmas* which with their "kings" were the life and soul of the carnival. The two most famous *turmas* were *O Coração* (The Heart) and *Os Invejados* (The envied ones). Members of the troupes practised a kind of verbal jousting known as *kazakuta,* which is still the most typical expression of Luandan folklore.

The *turmas* began to mobilize in December, when their most gifted members rehearsed songs for the carnival. The songs were sung either in Kimbundu, one of the national languages, if they were about unusual or satirical subjects, or in Portuguese or in both languages if they were inoffensive or ambiguous. The singers met secretly in private homes or in rented halls. Violations of secrecy were severely punished. Dance rehearsals were also held in secret.

The carnival supported a small industry, notably the metalworker's art. Domingos Veneno—his name meant "venom", for although he was a skinny fellow he was a doughty fighter—is still remembered for the lamps and the objects decorated with images and amulets which he made in complete secrecy. He was a devoted supporter of *O Coração,* and worked exclusively for them. Designers and dressmakers also worked secretly and exclusively for their favourite groups.

The first public rehearsal was held on the first Sunday of January, and the dress rehearsal took place on the Saturday before Ash Wednesday when people prayed to the divinity that the carnival should take place in "peace and tranquillity". It cannot be denied, however, that violent scuffles often broke out between the *turmas.*

Early on the Sunday morning the flags of the *turmas* were hoisted at



the gateways to the districts, in the midst of crowds of excited children. Then, to the sound of shouting and applause, they were carried downtown by a gang of strapping fellows. More and more people joined in the processions as they wended their way to Ambuílas, a sports ground in the middle of a big open space where the rival groups paraded side by side. The group that won most applause was judged the winner—the verdict was never disputed.

That afternoon all the huts were empty. No one would have dreamed of missing the festival. People flocked in, even from other towns. The atmosphere was euphoric. The members of the *turmas* wore devils' masks and brightly coloured costumes much admired by the crowd. Whistling and trumpeting rent the air, drums rolled, the crowds sang in unison. Then everyone returned to Ambuílas for another competition.

O Caração and *A Fineza* (Subtlety), eternal rivals, submitted their costumes to the judgement of the public.

The king of *A Fineza*, Kamalundu, a cobbler with bulging eyes, held himself majestically, leaning slightly forward. He waved his right hand, which he had slipped into a zinc gauntlet, another emblem of the two *turmas*.

The enemy king, Epifanio, now appeared. He too leaned forward slightly, brandishing a gauntlet which, as a metalworker, he had made himself. Both kings proudly entered the lists, showing off their beautiful costumes which were inspired by the roya! finery of old Europe. On their heads glittered zinc crowns—we called them helmets—which each one had decorated so as to outdo the other.

Everyone danced frenetically. The kings, enthroned amidst their court, dominated the *turmas,* surrounded by figures in disguise, some wearing black cloaks as emblems of the students they would never be, others dressed in doctors' or nurses' smocks. Then all present walked to the palace to join up with other groups and pay their respects to the governor, who stood on the balcony with his distinguished guests and saluted the revellers.

Tuesday was the day to end all days. No one let up for a second. An enormous crowd raced here, there and everywhere, enjoying every minute. Lovers of jousting tried their hand at *kazakuta*. Peals of laughter rang out incessantly as the *kazakuteiros* made fun of everyone and mocked the ups and downs of life.

Washerwomen cast an irresistible spell as they cleverly satirized "ladies" who only the day before had been lowly servants. Greengrocers described their tangles with customers who did nothing but grumble and protest about the poor quality and high price of their vegetables.

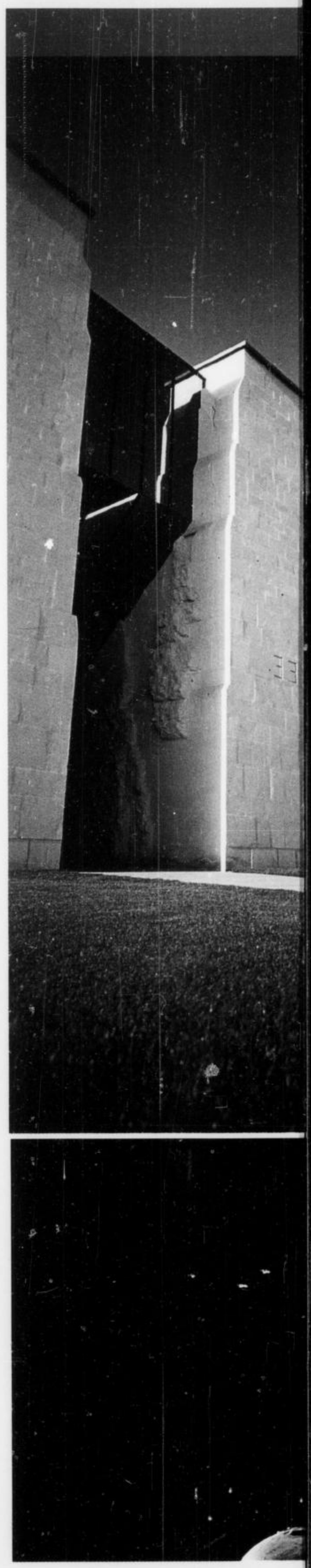
The governor declared a holiday, and we all lived each moment as if it were our last, as if we were afraid of losing forever the delights of this incomparable festival. Men and women abandoned themselves to delirium. A mother wandered around, desperately beating a tin can with her weary hand as she asked whether anyone happened to have seen her son, who had got lost in the general confusion.

Girls dressed in beautiful white dominoes alighted like butterflies, arousing the curiosity of the boys and the jealousy of lovers.

So the carnival went on until Wednesday—Ash Wednesday according to the liturgical calendar, the Wednesday of *mabangas,* the shellfish of good luck.

The troupes were tired. The masks were falling to pieces. Four people held out a sheet for a collection to buy *mabangas,* which were plentiful in that region and, copiously washed down, made a meal during which people took stock of the year that was past and made plans for the future. ■

DOMINGOS VAN-DUNEM, Angolan journalist, novelist and author of socio-linguistic studies, is currently serving as his country's ambassador and permanent delegate to Unesco. Among his recent works are a play entitled *O panfleto* ("The Tract"), published in 1988.



A MUSEUM FOR PEACE

BY HOWARD BRABYN

If you stand in the grassed over quarry that now forms part of the gardens of the Memorial Museum for Peace, on the outskirts of Caen in Normandy, France, your eye will perhaps be caught by a seemingly insignificant, newly-planted sapling.

Under two metres in height, there is nothing to distinguish it from the other trees in the garden except the plaque that informs the curious that it is a gift from the people of the United States, a *sequoia sempervirens*, a Redwood, the world's tallest species of tree, that one day will tower above its neighbours at its maximum height of 90 metres or more.

Opened in 1988, the Memorial Museum for Peace was built to commemorate those who died in the Battle of Normandy in 1944, the biggest battle in the history of mankind. It also honours the people of Caen, who saw their city reduced to rubble around them in the struggle for liberation.

But the Museum is not just another memorial, not just another war museum full of rusty war relics and a somewhat distasteful hint of glorying over the vanquished enemy. It is a monument to the obstinate determination of human beings to safeguard their freedom, and a laboratory in which to study the causes and prevention of armed conflict. Today, it could well claim to be on the way to becoming the world's first University of Peace.

In January this year, thirty-four selected American students are to come together at the University of Texas, Austin, to take part in the first Normandy Scholar Program, sponsored by the US Normandy Foundation and devised with the advice of a board of leading American historians. They will spend four weeks at the University of Texas, eight weeks at the Memorial Museum for Peace, and a final two weeks back in Austin.

According to Anthony Stout, Chairman of the US Normandy Foundation, whose father was closely involved with General Eisenhower in the planning and execution of the Normandy landings, "the idea of this course is to teach the Second World War as a 'case study' and to find out how people who don't want to wind up in a war wind up in a war".

This "case study" approach will involve an in-depth examination of conditions in Europe before, during and after the two World Wars with the aim of finding answers to such questions as:

- How did the Second World War happen so soon after another, gruelling war between many of the same combatants, and could it have been avoided?
- Why were the Allies reluctant to resist the Nazis until it was almost too late?
- What role did world economic conditions play as the war approached?
- What role was played by the press, the Churches and other institutions?

Many of these questions and others raised by the conflict are as relevant to peace now as they were in 1939. Many are central to issues being faced and debated by leaders today and to issues which will be faced as society moves into the next century.

The initial pilot programme will consist of four major courses covering the economic background, the cultural and intellectual history of France in the European context from the 1880s, communications and an assessment of the role of all the media, and leadership and strategy before and during the Second World War.

The Memorial Museum for Peace provides the ideal setting for studies of this kind. Located on the outskirts of Caen, the pivot around which the Battle of Normandy revolved, only a few miles from the beaches at which the Allied forces landed, it is sited literally on top of the underground bunker that served as the command post of General Wilhelm Richter of the German 716th Infantry Division which faced the Anglo-Canadian forces advancing on Caen. Even today there are many people still living in the area who can give first-hand accounts of life under the Nazi occupation and of the battle that raged throughout Normandy for seventy-six days.

The Museum is designed as "a voyage through history", starting with the signing of the armistice in 1918. Visitors enter a huge cylinder, round which a descending spiral ramp leads them through an impressive collection of photographs, posters, and audio-visual displays covering the period 1918 to 1938. The scenes depicting "the failure of peace and the rise of the dictators" include not only political events such as the coming to power of Adolf Hitler or the *Anschluss*, but also background evocations of the Jazz Age, the world economic depression, the Wall Street crash of 1929, and so on.

The ramp leads down to a large black dome where a huge, out-of-focus picture of Hitler is projected in an eerie violet light and the dictator's voice is heard as a menacing, incomprehensible mumble. The world has reached the pit of despair.

As visitors move out of the cylinder they come to the first of a maze of rooms in which are successively depicted the French surrender in 1940; France under the Nazi occupation and the Vichy Government, with all the horror of the execution of hostages and resistance fighters, the desperate daily search for food; the entry of the United States into the fighting and the period of "Total War"; a restrained treatment of the deportations, the concentration camps and the mass murder of the Jews of Europe; films of the key points of the war such as the Battle of Britain, Midway, El-Alamein, Guadalcanal and Stalingrad.

The next section of the Museum is perhaps more conventional, with displays of weapons and military equipment that reflect the technological and industrial progress that the urgent demands of war provoked.

After climbing up a short stairway visitors enter an area which sets the scene for a truly amazing documentary film, projected on a wide, split screen and simultaneously showing the Normandy landings as seen from both the Allied and German sides.

The grand finale of the visit is reserved for a film on the defence of liberty and human rights, an explanation of the philosophy of the Museum and a special message of peace and hope.

Writing about the Museum, its founding father Jean-Marie Girault, French senator and mayor of Caen, declared: "It is our intention to arouse the consciousness of all men and women who visit the Museum, from whatever country, so that they may realize that the tragedies surrounding liberty are as much a part of our contemporary world as they are of history, and that it is imperative that each individual person should renew his efforts on behalf of peace, fraternity and solidarity."

This intention the Memorial Museum for Peace triumphantly fulfils. Inside its walls there is no glorification of war but an unforgettable lesson in peace. ■

HOWARD BRABYN,
of the United Kingdom, is a Paris-based writer and journalist. He was formerly Editor of the English-language edition of the *Unesco Courier*.

Letters to the Editor

Don't smoke, subscribe!

There has been a striking improvement in the quality of your magazine and its illustrations, but the subscription price seems to be at the limit of what my pupils can afford. However, it's cheaper than buying cigarettes...

Paul Fidani
Lycée Montmajour, Arles (France)

Putting the record straight

I should like to make some comments on the interesting article on Arab mathematics by my colleague Roshdi Rashed which appeared in your November 1989 issue, *A mathematical mystery tour.*

If I am not mistaken, the author has grouped together as "Arab mathematicians" all the scholars who wrote and published their discoveries in the Arabic language. This is a useful designation as the vast majority of scientists and thinkers of the Islamic world did use that language.

But I think we should remember that some non-Arabs used Arabic in their scientific work. Several of the scholars mentioned in Mr. Rashed's article, including Khârazmi (rather than al-Khwarizmi) and Khayyam (rather than al-Khayyam), were Iranian. Furthermore, some of them wrote poetry in their mother tongue. Khayyam's quatrains are a monument of Persian, not Arabic, literature.

I am not raising this point out of chauvinism but simply in order to put the cultural record straight and above all to emphasize that the Islamic world stretches far beyond the boundaries of Arab language and culture.

Yann Richard
Châtenay-Malabry (France)

Inherited v. acquired characteristics

I was irritated by the following statement in Jacques Richardson's article on mapping the human genome ("Science and Society", September 1989): "In reproduction, a father and a mother contribute a gene corresponding to every chromosome pair found in their offspring. It is the combination of the similarities and differences that make each of us...mentally alert, musical, manually dexterous, sports-minded, and so on."

I'm not an expert in biology but I've been interested in the subject for a long time, especially in genetics with all its vast perspectives. According to everything I've read or discovered, the idea that people's intelligence, ability, or even tastes should depend on their genetic makeup has more to do with ideology than science.

I know that "signed articles express the opinions of the authors and do not necessarily represent the opinions of Unesco or those of the editors of the *Unesco Courier*", but I'm afraid that these few words are too fraught with consequences for the human race for me to let them pass without comment.

Christophe Meslin
Athis-Mons (France)

Message of peace from Anatolia

The preamble to Unesco's Constitution contains the following words: "Since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed."

I don't know what the third world war will be like, but the fourth will be fought with sticks and stones, as Einstein said. Both world wars caused terrible suffering, and yet people still make war. It's shameful!

Education is the only solution. Young people must be taught the spirit of peace from childhood on. They must hate war. They must hold out flowers and olive branches to those who want war. War must not triumph over reason.

Orhan Vatansever
Anatolia (Turkey)

An idea to save the world

The theme of the June 1989 issue was "1789: An idea that changed the world". Today, however, two hundred years later, it is evident that we are in urgent need of fresh approaches if we wish to assure the survival of life on this planet.

The environmental problem and the regional conflicts are examples of the awesome challenges facing humanity. It is odd that the authors who occasionally raise these issues all stop short of the one logical conclusion, namely that mankind has only one realistic alternative to universal disaster and that is a World Federation.

The idea is by no means new. Just over forty years ago, Albert Einstein thought that it would come about in any event...

It is surely time for us to make a firm effort to shake ourselves out of our indifference—before our collective *Titanic* takes us into an era of prolonged darkness or sinks outright into eternal oblivion.

Zeev Raphael
Haifa (Israel)

Berlioz and the *Aeneid*

I was sorry that Jean-Paul Brisson, in his article "Aeneas, Rome's man of destiny" (September 1989), did not mention the only important modern work I know of which is based on the *Aeneid*, namely Hector Berlioz' opera *Les Troyens*. Berlioz read and studied the Latin text of the *Aeneid* from an early age, and took it as the subject of an opera which was the culmination of his mature work as a musician.

Berlioz is still too little known, even in his native France! Would it be possible for the *Unesco Courier* to pay tribute to him in a forthcoming issue?

Jean-Michel Cuzin
Sceaux (France)

A wish come true

In the year since I've been a subscriber to the *Courier*, I don't think you have devoted an issue to economics. I should be really interested to read an economics number because of the courses I'm taking at school.

David-Pierre Gagneur
(age fifteen and a half)
Saint-Denis (France)

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